

BIENNIAL REPORT



Florida GAME AND FRESH WATER FISH COMMISSION

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Cover Photograph

The Florida white-tailed deer is the state's foremost big-game animal. It occurs in nearly every one of the 67 counties of Florida in sufficient numbers to provide good to excellent hunting. Under the influence of a progressive game management program plus efficient law enforcement, coupled with the cooperation of an enlightened public, the deer population of Florida is on a definite upswing.

Game and Fresh Water Fish Commission



January 31, 1959

HONORABLE LEROY COLLINS
Governor of Florida
State Capitol
Tallahassee, Florida
DEAR GOVERNOR COLLINS:

Herewith is submitted the Biennial Report of the Florida Game and Fresh Water Fish Commission for the period ending June 30, 1958, with a financial report for the 30-month period ending December 31, 1958. Through this report we wish to make known to you, to the members of the State Legislature and to the people of Florida, the activities and achievements of the Commission.

While the aforesaid report speaks in a great measure for itself, I would like, on behalf of the Game and Fresh Water Fish Commission, to make the following special comments.

We feel that during the past period, the Commission has made notable gains and progress in the area of improved conservation practices, stricter law enforcement, better public relations and, therefore, more public support, increased game and fish population, increased public hunting and fishing areas, rough fish and noxious weed control, water conservation, boat landing ramps, together with stabilizing personnel and employment practices through the adoption of a Merit System patterned after the Florida State Merit System. We rightfully feel that these areas of progress will lead us to greater efficiency and proficiency in the field of conservation.

We are all keenly aware of the great population surge into our State, and the attendant hunting and fishing pressures, and are continually striving to not only further develop our present hunting and fishing areas, but also to extend our managed lands and waters into new areas of our State. We are also aware of the increase in industry, agriculture, and other developments which are continually absorbing what were formerly hunting and fishing areas; and while we recognize the vital importance of new business, industry, and population to the State of Florida, we will continue to jealously guard those portions of our great State which are adapted to good hunting and fishing.

We realize too that there are many needs in the field of conservation, and we diligently press toward those goals which will assure many benefits and advantages for the people we serve. We ask sincerely for your help and that of the Legislature in providing additional funds through special appropriations in order that we might continue upon the important program of rough fish and noxious weed control, as well as conservation of surface waters. We promise you that we will always attempt to give a dollar's worth of service for each revenue dollar expended and will always look both within and without in seeking to improve ourselves and to expand our program.

In closing, may I express our grateful appreciation for your help and cooperation and for the help and cooperation of the other departments and agencies of State Government with whom it has been our privilege to work during this period of time. We always invite your suggestions and criticisms and covet your continued help and prayers.

Sincerely yours,
JULIAN R. ALFORD, Chairman

JRA:nrg



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REPORT OF PR

A. D. ALDRICH, Director

ACCCELERATED progress in all phases of conservation work was made by the Florida Game and Fresh Water Fish Commission during the biennial period.

In general, the Commission devoted its efforts toward rendering better service to the general public and the sportsmen of the State of Florida. This was done by improving personnel standards through formal adoption of a Merit System and Employee Classification and Salary Schedule, by clarifying operational procedures, defining channels of authority and responsibilities, coordinating activities, and bringing the program closer to the people.

Great emphasis was placed on defining channels of authority within the Commission, so as to render the department more efficient. Particular attention was devoted to improving the quality of personnel and their status of employment. General policies of the Commission were strengthened and clarified.

Better liaison between the Commission and the public was established. Most particularly, the general overall scope of department activities and services was expanded into new fields of endeavor, without increasing costs or personnel.

During the biennium, there was a continuation of the program of obtaining and opening additional public hunting and fishing areas. Also continued was the effort to attain sound fish and wildlife management practices as determined by accurate technical research programs.

There was a continuation of the accelerated drive toward bringing the programs of the Game and Fresh Water Fish Commission, especially the setting of hunting and fishing rules and regulations, closer to the people.

Better coordination and efficiency was achieved in, and between, all divisions and sections of the Com-

mission, with greater emphasis placed on law enforcement and public services.

On the overall, the activities of the past biennium will serve as a concrete indication of the determination of the Florida Game and Fresh Water Fish Commission and its employees to have a more progressive program of fish and wildlife conservation in Florida.

Following are the highlights of work accomplished during the biennial period:

CHANNELS

During the previous biennium, there was a clarification of the channels of authority within the Commission, which enabled all staff officers and employees to re-evaluate and re-organize their activities and procedures.

During the current biennium covered by this report, further efforts were made to strengthen and clarify the channels of authority in such a manner that a direct chain of command and responsibilities was achieved. This resulted in better efficiency and coordination between the divisions and sections of the Commission.

PAY SCALES

Because the Commission has been demanding more services and efficiency from its employees, it has, for the past four years, been the steadfast aim of the Commission to gradually increase base salaries for personnel. This is necessary in order to attract and hold the qualified conservation career employees that are able to give the services and efficiency required by the Commission.

The new Merit System and its employee classification and salary schedule adopted by the Commission during the biennium is extremely valuable to both employees and administrators. Job classifica-



GRESS

tions and wage schedules are approved by the State Merit System. This has been extremely helpful in up-grading the employee standards of the Commission.

COORDINATION

We have continued the practice of specifically delegating authority down clarified channels of command. This has resulted in a continuous improvement in the coordination between divisions, sections, and individual employees of the Commission. Such coordination is also helpful in improving employee morale so as to obtain more efficient services and work programs.

PUBLIC MEETINGS

The policy of holding public meetings throughout the state was continued during the biennium. The policy was especially effective in the series of public meetings held throughout the state to obtain expressions from the general public on the setting of hunting rules and regulations. This resulted in the compiling of information of great value during the current biennium to aid the setting of equitable, overall rules and regulations that will conform to the desires of the public insofar as may be possible without interfering with good, sound conservation management principles.

The public meetings also serve to bring the people of the state into closer contact with the Commission, and its employees, to a mutual benefit.

EXTRA-CURRICULAR DUTIES

Employees of the Commission were also advised as to the necessity for becoming involved in what may be termed as extra-curricular duties—services and responsibilities which are not normally considered part of the employees' jobs. Beyond their normal Commission duties, many

employees now serve on special committees and perform liaison activities between the Commission and other State and Federal agencies.

Important in this respect is the cooperative efforts of Commission personnel with civic, social and sportsmen's organizations throughout the State, especially the Florida Outdoor Writers, the press, television, radio and the Florida Wildlife Federation. Such liaison activities by Commission personnel are essential to a general and effective understanding of the Commission's wildlife conservation program.

Truly, the list of the extra-curricular duties and assignments of our employees would be a lengthy one. There are few, if any, local, state or national conservation efforts or organizations in which the employees of the Florida Game and Fresh Water Fish Commission are not represented. Such work is extremely helpful not only in furthering the general cause of wildlife conservation, but also in keeping the Commission and its employees abreast of modern developments and techniques in all wildlife fields.

POLICY MANUALS

A great step forward was accomplished during the biennium with the writing and publication of an Employee's Handbook. This is the first time that most of the internal policies and operational procedures of the Commission were ever set down on paper for permanent use by all employees. The Handbook has resulted in great improvements in standardization of work, and in cooperation between employees and divisions.

At request of the Chairman, a special Manual for the Chairman and the Commissioners was compiled for future publication. The manual amounted to compilation and codification of the legal powers, duties

and responsibilities of the Commission, itself, the Chairman and the Director.

One additional employees handbook was also produced by the Information and Education Division for use by Divisional employees.

OTHER PROGRAMS

Progress made during the biennium in all Divisions and Sections of the Commission is adequately presented in the various reports contained in this Biennial Report.

GENERAL

There can be little doubt that the Florida Game and Fresh Water Fish Commission made considerable progress in all phases of its activities during the biennial period. More important, the basic groundwork was laid to allow a greatly accelerated program to take effect during the current biennium. Much has been done, but a great deal more remains to be done. We feel certain that, with the help of all sportsmen and the general public, we can continue to do our job of conserving, protecting and restoring the fish and wildlife under a wise resource-use program that will guarantee an outdoor heritage for future generations. ●



FUTURE PROSPECTS

NO BUSINESS should be, or can be, operated properly without comprehensive plans for the future.

The Florida Game and Fresh Water Fish Commission has such plans. Plans which are designed to insure future satisfaction for the Florida sportsmen — the fishermen and the hunter. Plans which affect the future of our fish and wildlife. Plans which will help guarantee a heritage of natural resources for our children and their children.

We sincerely believe that much has been accomplished during past years, as the result of active cooperation from interested sportsmen and the general public. And we fully realize that much more must be done to protect, preserve, conserve and utilize our natural wildlife resources.

We, the Commission, firmly believe that there is a much brighter future for Florida wildlife interests during the coming years. We believe that sportsmen are fully within their moral and legal rights in demanding a more aggressive and effective program for Florida wildlife and the conservation thereof. We believe that it is the duty and the responsibility of this Commission to do everything within its power to implement such a program.

BUT this cannot be done without the firm and active backing of all interested sportsmen and citizens. Such a future cannot be attained without adequate finances. And it most certainly cannot be done without aggressive and progressive planning.

Here are the general plans that will be undertaken by the Game and Fresh Water Fish Commission:

First will be a continually improved and more effective Law Enforcement program. The Commission plans to continue employing and

training a progressively higher caliber of Wildlife Officer. We plan to continue improving the cooperation and coordination of our Law Enforcement efforts. We plan to continue improving the equipment of the Wildlife Officers, so that they may more efficiently perform their duties in the field. We plan to obtain more simplified and improved Fish and Game Laws and regulations, based on sound management principles and resource-use needs.

Number two on the list of future plans is the acquisition of additional public hunting and fishing lands. This is of utmost concern to every fisherman, hunter and wildlife student. Florida is developing rapidly. Without an aggressive land acquisition program, areas available for the average sportsman will be drastically reduced. More lands must be held in trust for the Florida fisherman and hunter, and every other citizen — public lands accessible for the enjoyment of all.

The Commission plans to work toward opening more privately owned lands to controlled public hunting, fishing, boating and general recreation purposes in conformance with sound wildlife and land management principles.

The Commission intends to discover and develop new techniques and procedures that will enable the greatest possible realization of the potentialities of game and fish populations, and fishing and hunting opportunities.

We intend to do everything within our power to study all plans formulated by State and Federal agencies when such plans will affect the waters, soils, forests, wilderness, and fish and wildlife of the State of Florida. We intend to continue, where necessary, to make recommendations

for changes in any plans or programs which we consider to have a potential detrimental effect on the fish and wildlife, and other natural resources, of the State. We intend to take any necessary steps that will help safeguard our wildlife heritage.

We plan to continue acting in our capacity of custodian and watchman of our natural resources, especially fish and wildlife.

In the future, we plan to continue the Commission's Merit System for Employees, to insure that all employment is based on aptitude and qualifications of employee applicants. We plan to continue training our employees so that they will be better fitted for their work.

We plan to continue serving the general public in all possible ways— Civil Defense, rescuing lost persons, aiding citizens in difficulty, furnishing information to the general public, answering calls for emergency help and transportation, and similar public service duties.

We plan to work toward a more uniform and equitable Florida fishing and hunting license structure that will be fair to one and all.

We plan to support legislation that will be beneficial to the sportsmen and to wildlife. We plan to work for legislation that will include stiffer penalties for game and fish law violations, more satisfactory control of airboats, more funds for hyacinth control and acquisition of public lands and waters, more workable laws affecting fish and wildlife, and a more uniform license structure.

The Commission also plans to improve its programs dealing with farm pond management, food and cover plantings for wildlife, youth conservation education, public information and education, and the many other vital phases of conservation activities.

We know that there is a bright future for the Florida sportsman. The Florida Game and Fresh Water Fish Commission plans to do everything within its power to work toward that brighter future. This future must be attained through the cooperation of everyone in Florida.

We are confident that we will ultimately reach the goal of realizing all of Florida's vast fish and wildlife potential.

ADMINISTRATION of the COMMISSION

O. EARLE FRYE
Assistant Director

THE FLORIDA Game and Fresh Water Fish Commission was created by a Constitutional Amendment passed at the general election of 1942, and becoming effective January 1, 1943. Under this amendment, there is vested in the Commission all regulatory and management authority for birds, game, fresh water fish, fur-bearing animals, reptiles and amphibians.

The Commission consists of five Commissioners — one of whom is appointed by the Governor from each of the five Congressional Districts of Florida that existed as of January 1, 1941.

The overall administration of the Game and Fresh Water Fish Commission is delegated by the Commission to a Director who is appointed by and serves at the pleasure of the five-man Commission.

Assisting the Director, and immediately under his supervision, are an Assistant Director, a Secretary to the Commission, personnel working on special assignments such as special investigators, and all Staff Officers.

Staff officers of the Commission consist of the Business Manager, the Chiefs of Game Management, Fish Management, Information and Education, Communications, Aviation,

and the Magazine Editor and the five Regional Managers.

The lines of Administrative authority are as depicted in the attached diagram. This diagram shows that the Director is immediately responsible to the Commission. All Chiefs of Divisions, or Staff Officers, are, on the other hand, responsible to the Director. Division personnel are, of course, responsible to their Staff Officers.

Thus, when a policy is set by the Commission, it is administered by the Director through his Staff Officers and their personnel.

Under this arrangement, it is the Staff Officers' duty not only to attend to their particular administrative duties, but also to keep the Director, and through him the Commission itself, fully informed as to all important activities in all administrative branches.

Prior to 1951, all Game Commission programs were organized and put into effect from one state-wide office in Tallahassee. This resulted in a cumbersome procedure that resulted in a loss of vital contact with personnel working in the field, and the local problems with which they were constantly confronted. Staff Officers in the Tallahassee main office were often isolated, not only

from their own personnel, but also from the sportsmen and general public of the State of Florida.

In an effort to overcome this operational handicap, the Administrative set-up was decentralized to attain closer contact with field problems and personnel.

To accomplish this, Game Commission Regional offices were established in strategically located spots throughout the state. Five Regions, and offices, were located in Northwest Florida, Northeast Florida, Central Florida, South Florida and Everglades Florida, with headquarters now in Panama City, Lake City, Ocala, Lakeland and Okeechobee.

Each Region was placed under a Regional Manager, responsible to the Commission's Director and Assistant Director. The Regional Managers are directly responsible for all activities within the geographical area composing their Region. These include all work and personnel in law enforcement, communications, game and fish management, aviation, information and education, and budgetary matters.

In order to make this operation workable, all activities of a technical nature must be supervised jointly by the Regional Manager and the Division Chief or Staff Officer of the appropriate function.

Thus, the Regional Manager, and his personnel, are assisted, at the upper level, by various Staff Officers. All state-wide programs set into effect by the Commission are organized and coordinated, with the cooperation of the Regional Managers and their personnel, by the Division Chiefs. It is therefore possible to put any overall program into immediate effect in all points of the state, with no discrepancies in policy or administration. A state-wide program is thereby operated exactly the same in every point of the state.

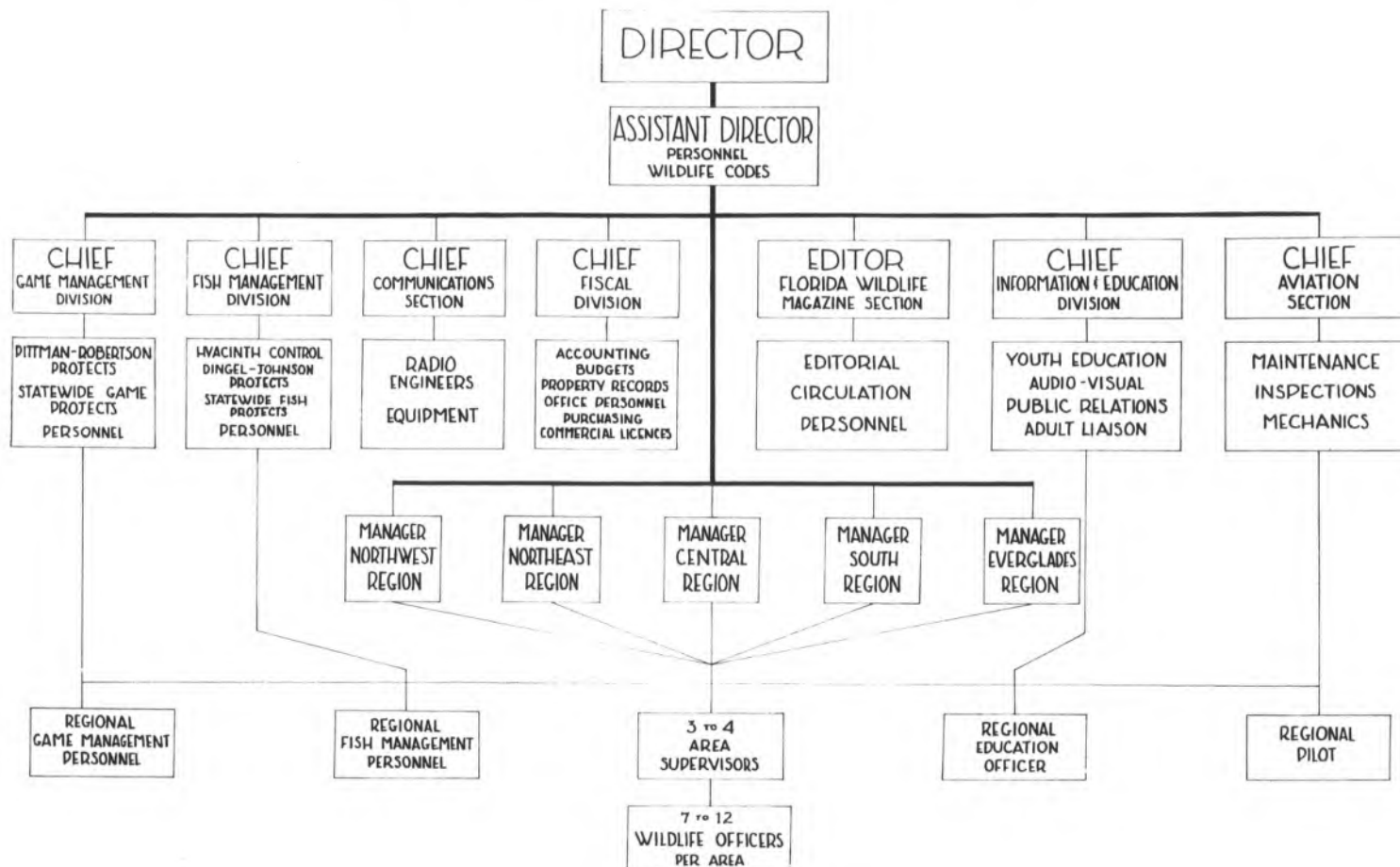
The close cooperation between the Director, the Assistant Director, the Division Chiefs and the Regional Managers is the most important item in the entire Administrative set-up.

Answerable to the various Staff

FLORIDA GAME AND FRESH WATER FISH COMMISSION

ADMINISTRATIVE SETUP

Five Commissioners—One appointed from each of five Congressional Districts
by Governor under Constitutional Amendment



Officers are additional sub-supervisory personnel. To the Business Manager is delegated responsibility for the State Property Officer, and Bookkeeping and Auditing personnel. The Game and Fish Management Chiefs are responsible for the leaders of Federal and State-wide Projects, such as the hyacinth control program, controlled seining, wildlife management areas, deer and turkey restoration, and water fowl and mourning dove research and management projects. The Information and Education Chief is responsible for the Chief of Youth Education, Chief of Audio-Visual, Supervisor of Adult Liaison, and the five Regional Information Officers. Regional Managers are responsible for regional fish and game and education officers, and area supervisors.

Each of these is, in turn, responsible for other personnel. For example, the Area Supervisor is responsible for law enforcement activities in from two to four counties within a Region, and is directly in charge of the activities of law enforcement personnel in such areas.

All of the lower level supervisory personnel actually participate in carrying out the work concerned. For example, Area Supervisors spend a great deal of their time in actual law enforcement as well as in supervision of law enforcement in their respective areas.

The degree to which any individual can participate in actual work depends, of course, upon the extent of his administrative duties. The



farther up the administrative ladder he goes, the more he is occupied with administrative matters, and the less he is able to participate in the work he is supervising.

One of the most important duties of the Director is the collection and assimilation of information from the various staff members for presentation to the Commissioners for use in evaluating and establishing overall policies of the Commission. It is

the Director's very definite responsibility to keep the Commissioners fully informed as to activities in the various phases of conservation endeavors, and as to public opinion regarding any specific issue. This can be accomplished by frequent personal contacts with individual Commissioners, and by means of periodic reports covering Commission activities.

Beyond assisting the Director in these vital tasks, the Assistant Director customarily also handles details such as Personnel employment, training and qualifications, as well as revisions of the Wildlife Code Book rules and regulations, and certain legal affairs. He does these things as a portion of his responsibility to the Director.

By the use of such direct descending lines of authority and administration, and by the returning lines of responsibility, personnel welfare and public contact, it is possible to administer a complete and well-integrated program of wildlife conservation for the State of Florida.

EMPLOYEE STABILITY

If you are considering a career in the wildlife conservation and law enforcement field, you will be interested in the following facts:

Fifty-one percent of all the employees of the Florida Game and Fresh Water Fish Commission have been employed for a period of five years or more.

Twenty-seven percent of the employees have been with the Commission for ten years or longer.

Following is the percentage of employees in the various five-year brackets:

Employed for	Percent of Total
5 to 9 Years	24%
10 to 14 Years	21%
15 to 19 Years	4%
Over 20 Years	2%

Note that the Game and Fresh Water Fish Commission, in its present form, was created on January 1, 1943. A few of the older employees worked for previous Game Commissions.

MERIT SYSTEM

for Employees

DURING the biennium, the Game and Fresh Water Fish Commission aligned its Merit System of Examinations for employees with the standard procedures of the approved State Merit System.

The Commission's Merit System is designed so that all employment is based on the aptitude and qualifications of each employee. The system is designed to be a continuous program which will better fit all employees of the Commission for their particular work, and, in turn, render better service to the people of the State of Florida.

Since the first examination, October 15, 1955, the Commission has hired all of its employees under the Merit System procedures.

An indication of the selectiveness of the Merit System is that in the first year of operation, a total of 427 applications for employment was received by the Commission. Of the 427 applicants, a total of 51 new wildlife officers was employed. The new officers were employed as replacements.

All applicants must successfully complete a series of written examinations, with the examining being done in various locations throughout the state in order to encourage additional examinees. The examinations are then graded by an impartial authority — the State Merit System.

Those who successfully complete the written examinations are then called before an oral interview board. Those who successfully complete oral interviews are then placed on the Commission's Merit System Eligibility List for employment when vacancies occur.

New employees are then put through an extensive training period, during which they are drilled intensively in all facets of the Commission's programs, policies and op-

erations.

After completing the training course, the new employees are then assigned to the field.

Under terms of the Commission's Merit System, applicants taking examinations must have a high-school education, or the equivalent, and

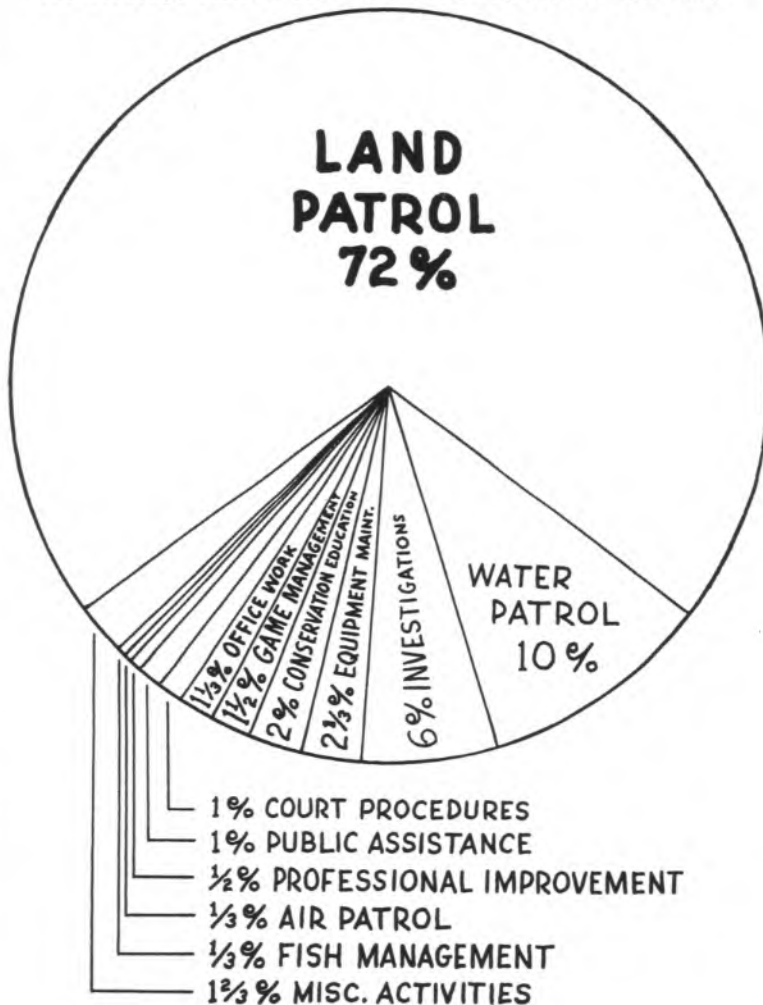
must be between the ages of 21 and 35. Applications for employment may be made to the Commission at any time. All applicants are then notified of the date and places of the written examinations.

During each year of the Merit System Examinations, the Commission finds that the overall caliber and quality of employee applicants improves steadily throughout the year, as prospective employees became familiar with the Merit System of the Commission.

As the result, the Merit System has enabled the Commission to place better-qualified and better-trained officers in the field. The increase in employee efficiency and morale has been noteworthy. ●

HOW...

The Average Florida Wildlife Officer Distributes His Time





Law Enforcement and The Wildlife Officer

VIGOROUS enforcement of the Game and Fish laws will always be an extremely important phase of a good wildlife conservation program. It will always be necessary to have game and fish laws, and it will always be necessary to see that such laws are properly enforced.

Florida's Wildlife Officers have the tremendous task of enforcing the game and fish laws applying to approximately 39,000,000 acres of land and water within the confines of the State of Florida. With the second largest woodland area in the United States, and with over 30,000 named fresh-water lakes, countless rivers and streams, and 58,560 square miles of territory to patrol, the Florida Wildlife Officer is faced with a task that is all-important and never ending.

Our Florida Wildlife Officers are engaged in a tremendous task that is most important to the welfare of the State of Florida. The importance of each individual Wildlife Officer

cannot be over-emphasized.

While in the field, the Wildlife Officer represents the authority, the responsibility, the duty and the potentiality of the entire Florida Game and Fresh Water Fish Commission. To the average fisherman and hunter, who has no other contact with the Commission, the Florida Wildlife Officer IS the Florida Game and Fresh Water Fish Commission.

It is vitally important, therefore, that our Wildlife Officers be men of good character and excellent qualifications. They must be thoroughly trained in all techniques of good law enforcement and must understand general wildlife conservation and management principles. It is important that they have both good personal character and educational background. They must have the physical stamina necessary to a lifetime of rugged work in the outdoors under difficult conditions. They must have the mental attributes necessary to keep abreast of the

rapid advance in modern wildlife conservation theories.

The Wildlife Officer must, above all, be ever courteous and fair in all matters relating to the sportsmen and the general public of Florida.

The Wildlife Officer must also be capable of working independently, by himself, in wilderness areas where he cannot obtain either company, assistance or instructions. He must, in other words, be self-operating, self-governing and self-supervising at many times.

It takes many qualifications to make a good Wildlife Officer. Therefore, it is necessary that all Wildlife Officers pass a strict mental, physical and character examination before being employed by the Commission.

One of the more important aspects of the Law Enforcement branch of the Commission is that it is subdivided geographically, corresponding to the five administrative Regions of The Commission. Each Re-

gion has a force of Wildlife Officers, supervised by several Area Supervisors, under the authority of the Regional Manager.

The job of Wildlife Officer is essentially the same in all Regions of the State. The Officers must, however, adapt their work procedure to fit local circumstances, such as geography, topography, population concentrations of wildlife and humans, and seasonal variations. With good transportation equipment — cars, trucks, Jeeps, airboats, marsh buggies, horses, boats, motors, airplanes — and effective radio communications, the Florida Wildlife Officers effectively cover the entire State, insofar as is humanly practicable under present budgetary requirements.

But Law Enforcement, or the sole responsibility of enforcing the Game and Fish Laws, is not the Wildlife Officer's only duty. The Officer is also expected to serve or assist in local game and fish management work, community service, special investigations and public appearances. The Wildlife Officer is expected to make suitable speeches before organized groups, maintain his equipment in good working order, assist in fair exhibits and special promotions, and make many appearances in court. He is also concerned with maintaining good relations between the sportsmen of the state and the Game and Fresh Water Fish Commission. And, since he has specialized transportation equipment, good radio communications and the necessary experience, the Wildlife Officer is often called upon for aid in search and rescue missions involving distressed persons.

In all, the Wildlife Officer has a well-rounded schedule of duties that is extremely important in the program of conservation, protection and utilization of our fish and game.

By definition, the Florida Wildlife Officer is the man who is primarily concerned with enforcement of the Game and Fish Laws. However, all male employees of the Commission, except office janitors, are actually commissioned as wildlife officers with the duty of enforcing the Game and Fish Laws, no matter what their routine jobs might be.

Just as the Wildlife Officer is con-

cerned with good public relations, so is the Information and Education Officer concerned with Law Enforcement. And, as the Wildlife Officer is concerned with good game and fish management work, so, too, is the Game or Fish Management Technician concerned with good Law Enforcement.

The policy that it is mandatory for all employees to be concerned in all phases and programs of the Commission is of primary importance to the sportsmen of the State of Florida. It is the only way in which a true wildlife conservation program may be achieved.

The fine cooperation between the Wildlife Officers of the Florida Game and Fresh Water Fish Commission and the Federal Game Agents of the U. S. Fish and Wildlife Service in Florida should also be mentioned. The excellent teamwork between the three Federal Agents stationed in Florida and our Florida Wildlife Officers has been responsible for improved protection not only of migratory game but of resident species as well, and has been extremely effective in many difficult cases.

There were also continuous improvements in the Training Program whereby all new Wildlife Officers undergo a brief but comprehensive training program before being assigned to their duties in

the field. As a result, the inexperienced officer is much better prepared to assume the responsibilities of his new job.

All Wildlife Officers, new and old, undergo periodic Training Schools where they receive the latest information concerning all Commission programs and activities. In Training, the accent is on Fish and Game Laws, Law Enforcement Techniques, Wildlife Code, Commitment and Imprisonment, Searches, Seizures, Forfeitures, and similar topics. Other studies include the State Constitution, Game Management, Fish Management, First Aid and Safety, Federal Court Procedures, Public Relations, and many other courses of instruction.

The well-trained Wildlife Officer is a good Wildlife Officer.

The Florida Game and Fresh Water Fish Commission realizes that only through the cooperation of an informed and interested public can game law violators be controlled and good conservation practices be employed. This is the reason why Wildlife Officers are expected to serve in so many diverse capacities.

Law Enforcement is, without question, one of the most important branches of the many varied programs and activities carried on by the Florida Game and Fresh Water Fish Commission. ●





Aluminum tag clamped on leg of mallard drake helps collect important game management data.

GAME MANAGEMENT DIVISION

AT THE BEGINNING of the 1956-57 fiscal year a number of administrative changes were made to improve operations. Due to the discontinuance of maintenance projects, W-37-M and W-40-M were combined to form W-45-D. Functions of W-23-R were transferred to W-41-R and those of W-31-D to W-35-D. A new project, W-46-D, was initiated in January 1957 to carry out development work at Jim Woodruff Reservoir. Also in January 1957, Donald D. Strode, formerly leader, W-32-R, was assigned duty as Assistant Coordinator.

These changes resulted in an improvement in all operations, and made possible continuation of a sound and effective program. Research, development, land acquisition, and administration were maintained at a good level.

Land acquisition activities enlarged the Big Cypress Area to approximately 132,000 acres, added 36,000 acres to Tomoka Area, and renewed the lease on the Fisheating Creek Area. Much time and effort

were devoted to the Guano River acquisition, but at the close of the fiscal year results were still not conclusive due to delay in receiving necessary opinions from the Attorney General. Other principal acquisition proposals still pending at the end of the year included joint acquisition with the State Forest Service of the Withlacoochee Land Use Project from the U. S. Forest Service, and acquisition of additions to the Gaskin Area.

Development and habitat improvement received the major share of the funds during the biennium. These activities were largely confined to the management areas, and involved food plots, controlled burning, clearing, and maintenance and construction of facilities. Plantings on the Jim Woodruff Area, hog and turkey trapping at Fisheating Creek and Myakka Park, and hunt operations were done with state funds.

E. B. CHAMBERLAIN, JR.
— Chief —

During the 1957-58 fiscal year Florida for the first time undertook large scale waterfowl development in its wildlife management program. This period saw the completion of lease agreements and all major construction on the Guano River Area, as well as the completion of the important primary phases of the Jim Woodruff Reservoir developments.

Land acquisition activities during the year added the 58,000 acre Devil's Garden Area in Hendry County, added 10,000 acres to the Farnton Area, and added slightly over 26,000 acres to the Lee Area to compensate in part for the loss of some 71,000 acres there due to sales by the owners.

Important studies and investigations dealt with wildlife resources, habitat changes, and land use in connection with the Central and Southern Florida Flood Control Project; studies of quail, dove, deer, turkey, waterfowl, squirrel, and frogs; food habits, and browse, population, harvest, and inventory studies.



Particular difficulty has been experienced in attempting to employ technical personnel. Vacancies have existed 10 to 12 months due to lack of qualified applicants.

This situation is due of course to a number of factors and is not subject to any easy solution. The basic problem, however, is a low pay scale and lack of recognition for performance of complex and exacting duties. Florida is not alone in this problem, since in general the same troubles exist throughout the profession. Florida's pay scale for technical wildlife personnel is low, but no

lower than that of several other states.

The great unfortunate result of these low salaries and lack of proper recognition is a movement of the best men out of the profession and a very strong tendency for young people in training or selecting a career to go into other fields. Wildlife management thus tends to become dragged down by mediocrity. Over the past several years Florida's wildlife management program has been blessed with an excellent technical staff. Already, however, a number of the better men have left, and more will inevitably do so. Inevitably, that is, unless this Commission is willing to take the necessary steps and spend the necessary money to attract and hold the good men still available.

Without such action, the next biennial report may tell quite a different story than does this, which summarizes the important aspects of a successful program in the following tables and project discussions.

TABLE 1. Pittman-Robertson Apportionments and Expenditures of Funds During Fiscal Years 1956-57, 1957-58, and 1958-59 with Summary of Projects by Type

	1956-57		1957-58		1958-59	
	Amount*	Percent	Amount*	Percent	Amount*	Percent
Coordination.....	\$ 25,581.68	7.2	\$ 26,200.00	6.5	\$ 25,600.00	6.3
Research.....	131,593.87	37.2	139,613.30	34.9	126,700.00	30.9
Development.....	144,760.10	41.2	234,443.40	58.6	275,500.00	62.8
Maintenance.....	50,881.96	14.4				
Total.....	\$ 352,817.61		\$ 400,256.70		\$ 409,800.00	
Apportionment.....	\$ 196,660.53		\$ 237,316.91			

* Federal monies with matching State funds. These amounts are planned expenditures.

SUMMARY OF PROJECTS BY TYPE

	1956-57	1957-58	1958-59
Research.....	8	8	8
Development.....	5 (3 containing maintenance features)	6 (2 containing maintenance features)	6 (2 containing maintenance features)
Coordination.....	1	1	1
Land Acquisition.....	1	1	1

THE PROJECTS

W-8-L, Charlotte County Game Management Area Acquisition

Negotiations were completed in the early spring of 1957 for the exchange of Section 13, Township 41 South, Range 23 East, for Section 36, Township 41 South, Range 23 East, and the transfer was formally completed. This exchange was set up through an enabling act by the Legislature during its last session and permitted the Commission to straighten its west boundary without expenditure of funds. The land gained in the exchange is at least as valuable as that which is lost, with no difference in acreage.

At the request of the Commission the Branch of Realty, USFWS, Atlanta, made an appraisal of lands involved in two other proposed exchanges in Charlotte County. Both would square up the Commission's property lines.

The first case involves 75 acres of State land described as N½ of NW¼, S 25, T41S, R23E and 90 acres of private land in S 25, T41S, R23E, and S 16, T41S, R24E. The State land was valued at \$200.00 per acre and the private land at \$50.00 per acre. With the acreages involved, this means the State land is worth \$9,500.00 more than the private land. It is unlikely this trade will go through.

The second case involves 240 acres of State land in S 23 and 24, T42S, R25E, a 160 acre parcel and an 80 acre parcel. The larger tract was valued at \$75.00 per acre, the smaller tract at \$50.00 per acre. The private land concerned consists of 320 acres, the S½ of S 17, T42S, R25E. It was valued at \$55.00 per acre. Thus, the 240 acres of State land have a value exactly equal to the 320 acres of private land. Probably this trade can be completed.

W-11-R, Charlotte County Quail Investigation

During 1956-57, research activities involved principally the collection and tabulation of routine data on quail populations, slough grass abundance, age and sex ratios, quail food habits, and experimental quail feeders. Game Publication No. 2 en-

titled, "The Bobwhite Quail and Its Management in Florida," was written by the Project Leader and the Leader of Project W15-D. This bulletin later won an award from the Southeastern Association.

There was a decrease in the quail population in 1956-57 under 1955-56 except on the two feeder areas which showed a slight increase. This was reflected in only fair hunting in Charlotte County in general and a reduction in kill from the previous year of approximately 1000 birds on the Cecil M. Webb Management Area. Analysis of quail wings showed one of the lowest percentages of juveniles on record for Charlotte County. Slough grass production was extremely low in 1956, approximately one-fourth that of the preceding year.

In the fall quail census, Feeder Area No. 1 continued to show a heavy superiority over Feeder Area No. 2—35.69 birds per hour as compared to 21.31 birds per hour. Feeder Area No. 2, however, showed a substantial superiority over the portion of the Management Area without feeders—12.72 birds per hour.

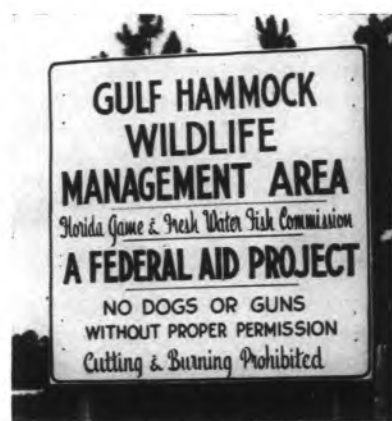
During the first quarter of 1957-58 96 additional feeders were installed on approximately 3,800 acres to enlarge Feeder Area No. 1. The entire feeder area was fenced to make it more satisfactorily separated from the hunt area and to more successfully use it in connection with field trials as well as a research unit. The total number of feeders on Area No. 1 was thus brought to 378. Limited analysis of 1956-57 quail crops was done in the first quarter and was completed in the second quarter. During the second quarter, the annual managed hunt was conducted on the area from 16 November until 22 December. A total of 3,799 birds was harvested and 430 cripples were lost.

W-15-D, Farm Game Habitat Restoration

Work on this project during 1956-57 has consisted primarily of study of the quail population on the experimental area in Jackson County, the distribution of planting material to landowners for quail habitat improvement, and some follow-up

studies of material distributed previously. In 1955, bush lespedeza plantings on the Jackson County area were seriously affected by summer drought. A few of these rejuvenated during 1956 due to better growing conditions, and those that were more seriously affected were replanted in the spring of 1957 on the half of the area where plantings are being maintained. Survival and growth of these plants have been fair. During the winter of 1956-57, the ninth annual mid-winter census was completed on this area.

Planting materials distributed to landowners in 34 counties this spring consisted of 400,000 thunbergii lespedeza plants, 8,000 pounds of partridge pea seed, 5,500 pounds of combine pea seed, and 4,000 pounds of common lespedeza seed. Follow-up inspections made last summer of plantings established from material delivered in the spring of 1956 showed the following results:



	Excel-	lent	Good	Fair	Poor
Thunbergii lespedeza	19%	34%	30%	17%	
Partridge pea	12%	50%	15%	23%	

These results are the best that have been obtained in recent years. In 1957, besides distributing planting material to landowners and co-

TABLE 2. Wildlife Management Areas Operated in 1956-57

	ACREAGE		Ownership	Location by County
	Open to Hunting	Closed to Hunting		
1. Eglin Air Force Reservation	390,000	70,000	U.S. Air Force	Santa Rosa, Walton
2. Blackwater		85,000	Florida Forest Service	Okaloosa Santa Rosa,
3. Roy S. Gaskin	110,000		Private	Okaloosa Gulf, Bay, Calhoun
4. Liberty	133,120		U.S. Forest Service	Liberty
5. St. Marks	3,000	62,000	U.S. Fish and Wildlife Service	Wakulla
6. Aucilla	110,000		Private	Wakulla, Jefferson, Taylor
7. Steinhatchee	225,000		Private	Dixie, Lafayette
8. Osceola	65,000	42,000	U.S. Forest Service	Columbia, Baker
9. Lake Butler		96,000	Private	Union, Baker, Columbia
10. Little Talbot Island		250	Florida Park Service	Nassau
11. Gulf Hammock	100,000	20,000	Private	Levy
12. Ocala	203,680	79,280	U.S. Forest Service	Marion, Putnam, Lake
13. Tomoka	50,000		Private	Volusia
14. Sumter-Citrus	30,000		Private	Sumter, Citrus
15. Farmton	50,000		Private	Volusia
16. Croom	17,000		U.S. Forest Service	Hernando
17. Richloam	48,000		U.S. Forest Service	Hernando, Pasco, Sumter
18. Holopaw	22,000		Private	Osceola
19. Avon Park	108,000		U.S. Air Force	Polk, Highlands
20. Okeechobee	16,000		Private	Okeechobee
21. Fisheating Creek	100,000	175,000	Private	Glades
22. Cecil M. Webb	57,000	5,000	Game and Fish Comm.	Charlotte
23. J. W. Corbett	97,000		Game and Fish Comm.	Palm Beach
24. Lee	85,000		Private	Lee
25. Collier	300,000	50,000	Private	Collier
26. Everglades	720,000		Central and Southern Florida Flood Control District	Palm Beach, Broward, Dade
27. Woodruff	5,000		U.S. Corps Engineers	Jackson
28. Camp Blanding	56,500	13,500	State Armory Board	Clay
29. Leon-Wakulla	67,000		U.S. Forest Service	Leon, Wakulla
30. Big Cypress	119,000		Private	Collier

operators and completing the Jackson County quail study, the project leader devoted considerable time to the Soil Bank Program and to inspections of fire ant control work. During the spring of 1958, planting material was distributed in 33 counties. This consisted of 510,000 thunbergii lespedeza plants, 6,584 pounds of partridge pea seed, 9,339 pounds of combine pea seed, and 3,370 pounds of common lespedeza seed. A shortage of partridge pea seed last fall was particularly difficult. In order to prevent a similar occurrence next year, 300 pounds of seed were planted in a seed block for harvesting during the fall. At present time, this block shows promise of producing a good yield.

Inspections made during the summer of 1957 showed the following results from material distributed that spring:

	Excel- lent	Good	Fair	Poor
Thunbergii les- pedeza	0%	29%	35%	35%
Partridge pea	27%	29%	25%	20%
Combine pea	13%	62%	21%	4%

Considerable effort has been made by the project leader to promote landowner participation in the wildlife provisions of the Soil Bank Act. A leaflet was prepared explaining the wildlife aspects of this program. This was printed by the Commission and distributed through the various county committees. So far, however, there has been very little participation in the wildlife practices.

During the latter half of the year, the great amount of interest and concern over fire ant control has required the project leader to devote considerable time to inspection of these activities.

The winter quail census of 1958

completed field work in the Jackson County quail study area. This 5,500 acre tract was set up in 1948 for the purpose of learning the effect of bi-color and thunbergii lespedeza plantings upon the quail populations of typical northwest Florida farmlands. One hundred seven plantings were made on the area in the spring of 1949. The area was censused with bird dogs during December of each year. Results of the study failed to show that plantings had any material effect upon the quail population. In 1953, the area was divided in half with plantings being maintained on one half and destroyed on the other. Land use practices changed significantly on the area during the period of study from corn and peanut cropping to grazing. It is concluded that this change in land use, plus accompanying climatic conditions during the nesting seasons, had more effect upon quail populations than did the food planting program.

TABLE 3. Wildlife Management Areas Operated in 1957-58

	ACREAGE		Ownership	Location by County
	Open to Hunting	Closed to Hunting		
1. Eglin Air Force Reservation	390,000	70,000	U.S. Air Force	Santa Rosa, Walton, Okaloosa
2. Blackwater	85,000		Florida Forest Service	Santa Rosa, Okaloosa
3. Roy S. Gaskin	118,300		Private	Gulf, Bay, Calhoun
4. Liberty	133,120		U.S. Forest Service	Liberty
5. St. Marks	3,000	62,000	U.S. Fish and Wildlife Service	Wakulla
6. Aucilla	110,000		Private	Wakulla, Jefferson, Taylor
7. Steinhatchee	225,000		Private	Dixie, Lafayette
8. Osceola	92,000		U.S. Forest Service	Columbia, Baker
9. Lake Butler	96,000		Private	Union, Baker, Columbia
10. Little Talbot Island		250	Florida Park Service	Nassau
11. Gulf Hammock	100,000	20,000	Private	Levy
12. Ocala	203,680	79,280	U.S. Forest Service	Marion, Putnam, Lake
13. Tomoka	50,000		Private	Volusia
14. Sumter-Citrus	20,000		Private	Sumter, Citrus
15. Farmton	60,000		Private	Volusia
16. Croom	17,000		U.S. Forest Service	Hernando
17. Richloam	63,000		U.S. Forest Service	Hernando, Pasco, Sumter
18. Holopaw	23,000		Private	Osceola
19. Avon Park	108,000		U.S. Air Force	Polk, Highlands
20. Okeechobee	16,000		Private	Okeechobee
21. Fisheating Creek	100,000	175,000	Private	Glades
22. Cecil M. Webb	57,000	5,000	Game and Fish Comm.	Charlotte
23. J. W. Corbett	90,000		Game and Fish Comm.	Palm Beach
24. Lee	40,000		Private	Lee
25. Collier	200,000	50,000	Private	Collier
26. Everglades	725,300		Central and Southern Florida Flood Control District	Palm Beach, Broward, Dade
27. Woodruff	6,000	1,000	U.S. Corps Engineers	Jackson
28. Camp Blanding	56,500	13,500	State Armory Board	Clay
29. Leon-Wakulla	67,000		U.S. Forest Service	Leon, Wakulla
30. Big Cypress	133,000		Private	Collier
31. Guano River		10,000	Private	St. Johns
32. Devil's Garden	40,000	18,000	Private	Hendry

W-19-R, Florida Waterfowl Investigation

Activities during the first quarter of 1956-57 consisted of completing the field work on the vegetation studies of the Kissimmee Valley and Lake Okeechobee and commencing the tabulation and analysis of these data. The project leader also attended a review and discussion period concerning the U. S. Fish and Wildlife Service mail survey of waterfowl kill at Patuxent Research Refuge. During the second quarter, the Florida duck inventory was completed and the periodic waterfowl inventories were flown on established transects. A report dealing with the vegetation of the Northwest Shore of Lake Okeechobee was prepared in conjunction with the report presenting recommendations of the Game and Fresh Water Fish Commission to the Corps of Engineers and the Central and Southern Florida Flood Control District. This report was an exceptionally fine piece of work and aided materially in establishing the validity of the Commission's recommendations. Other work carried out during the quarter included the tabulation and analysis of the 1955-56 waterfowl populations on the major transects, the carrying out of a bag check at Lake Okeechobee designed to reveal hunter

error in waterfowl identification and reporting on mail surveys. During the third quarter, the periodic waterfowl inventories were completed, tabulated and analyzed. A paper dealing with investigations carried out in the Kissimmee Valley and on Lake Okeechobee was presented by Mr. Sincock and Mr. Powell at the 22nd North American Wildlife Conference in Washington. This paper later won a Southeastern Association award as best publication of the year. Waterfowl trapping activities were begun at the Titusville station.

During the final quarter, the project leader prepared a report dealing with the wintering waterfowl populations of the Kissimmee Valley and their relations to the hydrology, topography, and distribution of vegetation. This report was used by the Commission in making recommendations to the construction agencies concerned with water level management plans in this area, and resulted in major modifications in design to maintain wildlife values.

Trapping stations were operated at St. Marks and at Titusville. A total of 3,412 ducks, 3,387 of which were lesser scaup, was banded. Fifty percent of the scaup were banded with a new lock-on experimental band, and 50% with regular type bands. Half of those banded with regular bands were dyed red to aid in recognition during migratory movement. There were 3,043 retrap instances including the times the nine "foreign retraps" and the 139 returns were trapped after the original 1957 trapping. Loss of bands at the trapping site indicated that the lock-on band was only a slight improvement over the regular band.

Activities during the first quarter of 1957-58 consisted of field work on the St. Johns River Valley, the Florida duck inventory, analysis of population trends of the Florida duck, and the preparation of a report on the research needs for the Atlantic Flyway Council. During the second quarter of the year analysis of the St. Johns' data was begun and the regular periodic waterfowl inventories were flown. In the third quarter the periodic waterfowl inventories were continued and summarized, banding activities began, the analysis of the St. Johns' data

was continued, and a report by the assistant leader entitled "Florida Waterfowl Band Recoveries, 1920-1957" was published. During the last quarter, a report by the leader entitled "Waterfowl Ecology in the St. Johns River Valley as Related to the Proposed Conservation Areas and Changes in the Hydrology from Lake Harney to Ft. Pierce, Florida" was mimeographed by personnel of the Vero Beach office. In addition, the leader spent one week on the Guano River area cover-mapping the vegetation and recording water quality and other data. A brief report was prepared for the files on the existing vegetation of that area. One week was spent on the Caloosahatchee River in reconnaissance of the distribution of the submerged vegetation and in testing water quality. Two weeks in June were

devoted to aerial inventory of the Florida duck population. Mosquito control personnel in Brevard County were contacted, and inspection was made of several of the older mosquito impoundments. Inspection was also made of a newly constructed mosquito impoundment in Lee County.

On the Brevard County mosquito impoundments, the mosquito control department has started to employ artesian wells to maintain permanent water levels; this and the complete die-off of practically all pre-existing vegetation have finally resulted in the establishment of some good stands of Widgeon-grass (*Ruppia maritima*) in the older impoundments. Apparently one of the most detrimental factors to waterfowl values, on the impoundments in which pumping is still used, is the

TABLE 4. Summary of Active Pittman-Robertson Projects Operated in 1956-57, with Tabulation of Personnel

Project	Name	Purpose	Estimated Total Cost
W-8-L	Charlotte County Game Management Area Acquisition.....	Exchange of lands to consolidate Commission holdings.....	\$ None
W-11-R	Charlotte County Quail Investigation.....	To study ecology of South Florida quail.....	9,944.50
W-13-C	Wildlife Management Coordination.....	To administer and supervise program.....	21,667.84
W-15-D	Habitat Restoration for Farm Game.....	To improve quail habitat.....	20,319.60
W-19-R	Florida Waterfowl Survey.....	To study waterfowl ecology.....	15,852.73
W-22-R	Mourning Dove Study.....	To study dove populations and migrations.....	4,858.93
W-27-R	Eglin Field Deer Investigation.....	To study deer populations and management.....	6,814.63
W-32-R	Ocala Deer Investigation.....	To study deer populations and management.....	2,610.13
W-33-R	Wildlife Inventory, Harvest and Economic Survey.....	To learn statewide harvest and hunting pressures.....	16,742.82
W-35-D	North Florida Management Area Development.....	To develop management areas in north and central Florida.....	103,200.40
W-39-R	Wildlife Investigation of the Central and Southern Florida Flood Control Project.....	To development management and operational methods.....	18,262.27
W-41-R	Management Area Research.....	To study game populations and management recommendations.....	26,620.36
W-43-D	Wildlife Development of the Central and Southern Florida Flood Control Project.....	To develop Everglades Area.....	8,286.38
W-44-D	Lake Miccosukee Development.....	To rip-rap dam and water control structure.....	*
W-45-D	South Florida Management Area Development.....	To develop management areas in South Florida.....	43,268.04
W-46-D	Woodruff Reservoir Development.....	To develop management area.....	14,363.17
			\$312,811.80

PERSONNEL

Full-time technicians.....	19	Bookkeeper.....	1
Part time technicians.....	1	Secretarial.....	2
Full time non-technical.....	17	Half-time secretarial.....	1
Part time non-technical.....	7		

* No costs prior to June 30, 1957.



Establishing wildlife food plots is important game management activity.

failure to maintain permanent water levels the year-around.

During the winter a total of 1,179 ducks was banded; 1,169 of these were lesser scaup banded at Titusville. Approximately 50% of these birds were banded with lock-on bands and 50% with regular bands. There were no known instances of band loss, due presumably to elimination of wire ends on the traps.

The regular periodic aerial inventories during the fall and winter months indicated that Florida's total waterfowl population for the 1957-58 season was down approximately 25%. The ringneck population was about average, though the distribution was quite abnormal. Greater populations of canvasbacks and redheads were found than normally occur, though mallards, blacks, teal, baldpate and coot were all low. The Florida duck population continues considerably below the average of previous years.

W-22-R, Mourning Dove Study

The greater part of the project leader's time has been spent in analyzing data collected by other personnel and supervising project activities in general. Coding of West Palm Beach banded birds on Key-sort cards was continued, and tabulation of these data has been taken through two phases in an effort to arrange the data in such manner as will meet the requirements neces-

sary to proper statistical analysis.

Early in 1957-58, analysis of the West Palm Beach trapping data was begun with the aid of Mr. Charles Blake, who has earned considerable recognition for his work in banding and statistical analysis of banding records. He was recommended by the Wildlife Management Institute to assist the project leader in the present study. The major objectives of this analysis are estimates of mortality, estimates of population size throughout the year, estimates of changes in population size from year to year, estimates of movements, and estimates of effects of hunting. Tabulations of the West Palm Beach data are prepared by the project leader according to Mr. Blake's direction and are sent to him for analysis. Although results so far are quite preliminary, Mr. Blake finds the mortality of adults to be about 53% per year, with approximately half of this mortality assignable to hunting. Mortality for the first year after banding is at present estimated at 86%.

Wildlife officer random road counts were run each year from July through February. The trapping station at West Palm Beach was continued throughout the biennium. Total trapping results through 1957-58 for the project are 20,673 new birds banded and 34,724 birds trapped.

W-27-R, Eglin Field Deer Investigations

Work during 1956-57 was concerned with Eglin Field, the Apalachicola National Forest, and bear investigations. During July and August, the realignment and reposting of the Liberty Management Area of the Apalachicola Forest were completed, and the buffer zone was eliminated. The Leon-Wakulla Management Area was also established in the Apalachicola National Forest.

The project leader has worked quite closely with the various beekeepers associations in the bee-bear investigations which were brought about because of apprehension on the part of the Game and Fresh Water Fish Commission concerning the increasing number of bears reported killed by beekeepers. As a first step, lists of all registered beekeepers in the State were obtained. Postcard questionnaires seeking certain information were then sent to all of these addressees. A return of approximately 47% was received, and of these, 11% reported bear damage. The average reported loss per individual beekeeper was approximately \$365.00. The number of bears killed by beekeepers annually appears to run approximately from 150 to 175. Bear damage areas have centered around the three national forests. It was found that most beekeepers do nothing to prevent bears from entering their apiaries until damage has been suffered. The usual procedure is then to trap or shoot the bear. Experimentation with scaring devices, electric fences and platforms, indicated that the platform



is the most successful method of preventing bear damage. Plans for such platforms were drawn up and a supply of construction drawings made available to beekeepers. Several bear traps have also been constructed. These will be used in the trapping and removal of nuisance animals.

In the annual archery hunt on Eglin Field, 159 archers killed 7 bucks. During the regular gun season, 7,625 hunters reported killing 661 bucks. This represents a 7.1% decrease in the number of gun hunters from the previous year. Track counts in the fall of 1956 indicated an estimated total population of 13,000 deer at Eglin Field. Twenty-six deer were trapped during January and February from high population areas on the Field. Twelve of these were moved to an area of suitable habitat in Washington County, while the remaining 14 were ear-tagged and released at the trap site.

Activities during the first quarter of 1957-58 were concerned primarily with general deer investigations, construction of traps, and a rabies vector survey in connection with the Florida State Board of Health. Track counts during the month of September indicated an estimated 12,500 deer on the 461,000 acres comprising the Eglin Air Force Base. Observations of 873 deer in September indicated a buck-doe ratio of one to six and a fawning success of 36.8%. Forty-five wooden deer traps were constructed to be used during January and February. The rabies survey indicated that free running dogs may be taking an annual toll of some 1,300 deer on the Reservation.

The annual archery and gun hunts were held at Eglin Air Force Reservation during the second quarter. Deer were found to feed largely on live oak acorns and mushrooms from mid-October to mid-November. At that time, they began feeding heavily on water oak acorns, and as a consequence, moved to more dense habitat. As a result there was considerable complaint from hunters who maintained that there was a scarcity of deer. A total of 202 archers participated in the bow hunt, which lasted for 16 days and resulted in a kill of six bucks. The gun season was open from 16 November through

2 December and from 19 December through 2 January, a total of 32 days of hunting. The reported kill was 637 bucks, though the actual legal kill is known to be greater.

During the third quarter, a drive census and track count census were carried out. The two methods yielded almost identical information with the track requiring six man-days and the drive census requiring 288 man-days. Results of these censuses indicate a population of about 8,600 animals, an increase of 4.6% since 1955. A total of 117 deer was trapped during January and February, with 67 animals being released on Eglin Field for movement study and 50 released on closed areas in adjacent counties.

Deer stomachs collected during and after the hunting season were

found to contain high percentages of live oak browse. If this species continues to be an important deer food, methods of encouraging sprout growth will be determined. A rotation system of burning is also being studied to improve habitat conditions for turkey, deer and quail. One hundred seventeen hunters harvested only four turkey during the spring gobbler season. Poor hunting success was attributed largely to cold weather.

W-32-R, Ocala Deer Investigation

During the months of July, August and September 1956, the project leader worked on deer track counts, doe-fawn ratios, mushroom studies, oak seed orchard studies, and deer condition studies. The principal activities during October, No-

TABLE 5. Summary of Active Pittman-Robertson Projects Operated in 1957-58

Project	Name	Purpose	Estimated Total Cost
W- 8-I	Charlotte County Game Management Area Acquisition.....	Exchange of lands to consolidate Commission holdings.....	\$ None
W-11-R	Charlotte County Quail Investigation.....	To study ecology of south Florida quail.....	13,185.00
W-13-C	Wildlife Management Coordination.....	To administer and supervise program.....	24,750.00
W-15-D	Habitat Restoration for Farm Game.....	To improve quail habitat.....	13,100.00
W-19-R	Florida Waterfowl Survey.....	To study waterfowl ecology.....	15,150.00
W-22-R	Mourning Dove Study.....	To study dove populations and migrations.....	5,025.00
W-27-R	Eglin Field Deer Investigation.....	To study deer populations and management.....	5,100.00
W-32-R	Ocala Deer Investigation.....	To study deer populations and management.....	8,050.00
W-33-R	Wildlife Inventory, Harvest and Economic Survey.....	To learn statewide harvest and hunting pressures.....	26,800.00
W-35-D	North Florida Management Area Development.....	To develop management areas in north and central Florida.....	105,100.00
W-39-R	Wildlife Investigation of the Central and Southern Florida Flood Control Project.....	To develop management and operational methods.....	20,800.00
W-41-R	Management Area Research.....	To study game populations and make management recommendations.....	23,000.00
W-43-D	Wildlife Development of the Central and Southern Florida Flood Control Project.....	To develop Everglades Area.....	8,950.00
W-45-D	South Florida Management Area Development.....	To develop management areas in south Florida.....	43,150.00
W-46-D	Woodruff Reservoir Development.....	To develop management area.....	13,450.00
W-47-D	Guano River Development.....	To develop a waterfowl management area through construction of dike and water control structures.....	11,335.00
			\$336,945.00

PERSONNEL

Full time technicians.....	19	Bookkeeper.....	1
Part time technicians.....	1	Secretarial.....	2
Full time non-technical.....	21	Half time secretarial.....	1
Part time non-technical.....	8		



Live-trapping, ear-tagging and releasing deer gives data on deer movements and habits.

September and December were the preparation for and collecting of kill data from the annual archery and gun hunts. In January 1957, the project leader was transferred to Tallahassee to assume duties as Assistant Federal Aid Wildlife Coordinator.

Plant measurements were taken in the deer enclosures and habitat work conducted by the Forest Serv-

ice was inspected as scheduled. The 1956 hunt provided 28 hunt days from 20 November through 30 December. The first six days were opened to hunting, while Mondays, Tuesdays and Fridays were closed thereafter except for the last week of the season. The weather was extremely dry throughout the hunt period, making hunting conditions poor. However, a total of 598 deer, 36 turkey, 142 quail, 14 duck, 2,170 cat squirrels and 100 fox squirrels was reported at the checking stations. Spike bucks made up 34% of the legal kill. Of the deer checked, 93% were in good condition, 5.5% in fair condition, and 1.5% in poor condition. Twenty-four infestations of screw-worms were recorded. Man-days of utilization during the 1956 season totalled 41,800 and man-days of hunting totalled 38,100. This was a decrease of 4,435 man-days of utilization and 2,877 man-days of hunting from the 1955 hunt. Average deer weight increased slightly from 1955, but in the 13-17 month age group the increase in both weight and measurements was substantial.

Mr. E. L. Tyson assumed the duties of project leader on 15 August 1957. Mr. Tyson had previously worked with the Commission as leader of the Eglin Field Deer Investigation. During the first quarter, he spent much of his time becoming

familiar with the area and in reviewing past progress reports and work plans, and becoming acquainted with personnel of the U. S. Forest Service. Track counts were made on approximately 85 miles of road and an average of 19.7 tracks per mile was found during the first quarter.

Considerable time during the second quarter was devoted to supervising the annual archery and gun hunts and in collecting kill data from these hunts. Other activities consisted of food habits studies and acorn production studies.

During the 1957-58 hunt, a known total of 791 deer was removed from the area. Of these, 723 were legal bucks, five were killed by archers, and 63 were illegal kills or kills due to miscellaneous causes. The average weight of the legal bucks was 105 pounds, the lowest on record. It is felt that this may be the result of this year's poor acorn crop. During the year, only 15 animals were found to be infested with screw-worm.

Continued emphasis was placed on mushroom and mushroom production studies during the last quarter. A key to the common genera of mushrooms in the Ocala Forest was prepared by the project leader.

Control burns were carried out on 2,200 acres of longleaf pine lands and plans made to keep power-line rights-of-way clear by cutting vegetation with a large chopper.

W-33-R, Wildlife Inventory, Harvest and Economic Survey

During the first quarter of 1956-57, compilation and analysis of data on the 1955-56 mail questionnaires was completed and reported upon. A special report was prepared and submitted to the Commission prior to the regulations meeting in mid-July. This dealt with public opinion regarding the staggered day hunting regulation. Most of the rest of the project leader's time was spent in advising and assisting in tabulation and analysis of data from other projects. The project leader also attended the mail surveys training session conducted at the Waterfowl Biometry Office at Patuxent Research Refuge. Practically all of the second quarter was devoted to planning for and conducting the collection and analysis of kill data from

TABLE 6. Estimated Number of Resident Licensed Hunters Taking Each Species During the 1956-57 Hunting Season as Determined by the Post-Season Random Mail Survey

Species	DISTRICT					State Total
	I	II	III	IV	V	
Deer.....	8,800	9,900	10,600	7,100	11,800	48,000
Turkey.....	9,400	4,300	5,800	4,500	5,500	29,000
Quail.....	14,300	9,900	12,300	7,500	10,500	55,000
Squirrel.....	15,100	18,800	23,400	3,200	15,800	76,000
Dove (Total).....	14,500	13,100	15,500	10,900	9,300	63,000
Dove (Early).....	13,000	8,800	13,300	9,500	5,600	50,000
Dove (Late).....	10,600	7,400	9,300	6,500	6,600	40,000
Duck.....	7,200	5,600	7,600	7,500	8,000	36,000
Coot.....	2,200	1,900	1,400	3,200	4,500	13,000
Goose.....	300	700	2,400	300	100	3,800
Marsh Hen.....	800	1,400	400	1,100	700	4,500
Snipe.....	3,400	900	1,400	3,600	2,000	11,400
Number of Licenses..	30,200	26,600	35,700	18,200	28,200	138,900

Slight discrepancies in total are due to method of rounding each estimate independently from detailed computation sheets.

the management areas. The job was carried out by mark sense procedures and functioned extremely well on some areas but with only fair success on others. During the third quarter, work was conducted on mail questionnaires for the 1956-57 season, analysis of data from the management areas, evaluation of the mark sense procedure technique, and collection of kill data. Work on the mail questionnaires continued through the final quarter but also included analysis of hunting license stubs, quail population studies, and sportsman opinion surveys. Two special reports were prepared, one dealing with hunter opinion on the everyday hunting regulation which was put into effect last season in the First and Fourth Districts, the other dealing with hunting pressure in these districts under this regulation. Results of the opinion survey show that 74% of the respondents from the First District and 83% of those from the Fourth District were in favor of the regulation permitting hunting every day. Results of the report on hunting pressures indicated no difference due to the regulation changes. It is, of course, possible that some difference occurred, but if so were too slight to be of any significance.

The project leader spent two days attending a meeting of the statistical sub-committee of the Forest Game Research Needs Committee in Atlanta and the last three weeks of the quarter attending the summer session at North Carolina State University while on annual leave. An assistant leader for this project was employed and assumed his duties on 1 April.

In the first quarter of 1957-58, work was conducted on mail questionnaires, analysis of hunting license stubs, and coordination of data from other sources. The project leader attended a summer session at North Carolina State College on an annual and a compensatory leave status. He returned to the Institute of Experimental Statistics at Raleigh in September to carry out analysis of mail survey procedures and check station data under supervision of laboratory personnel. The assistant project leader attended a three day IBM school in Jacksonville and

spent considerable time with the Engineering Department at the University of Florida working on construction of a directional trafficcounter to be used on the managed hunt areas.

Principal work during the second quarter was on mail questionnaires and the collection and tabulation of data from the managed hunt areas. A sampling technique using random road blocks was designed by the project leader and put into effect on seven management areas. Considerable time was devoted to instructing field personnel in the proper operation and procedures involving trafficcounters and the mark sense system. During January, data from the managed hunts were collected and analyzed. The IBM cards were punched, sorted and tabulated at the Leesburg office and at the IBM Service Bureau in Jacksonville. This work continued into February and was largely completed by early March. During February, initial work was done on the drawing of samples for the regular post-season mail surveys. Kill material consisting of antler size data, turkey age and weight data, and hog kill data was tabulated. Hunting pressure and harvest for the management areas were calculated and presented. Follow-up mailings in the regular post-season series continued until April and May. Data from returns were punched into IBM cards



IBM mark sense cards are used to record and machine-analyze management data collected.

as they were received in the Leesburg office.

W-35-D, North Florida

Management Area Development

During 1956-57, work plans were followed on all areas. On the Gaskin Management Area all existing quail food plots were reworked and fertilized. Approximately 350 plots are in good condition. Carpet grass was seeded along 20 miles of old roads and fire lanes. A total of 32 quail food plantings was also put out on the Blackwater area inside of the Floridale Pasture. These plantings consisted of partridge pea and lespezea.

On the Tomoka area, a storage building consisting of a prefab metal unit and an open front equipment shed was completed. With the help

TABLE 7. Estimated Total Man-Days of Hunting Pressure expended for Each Species by Resident Licensed Hunters During the 1956-57 Hunting Season, as Determined by the Post-Season Random Mail Survey

Species	DISTRICT					State Total
	I	II	III	IV	V	
Deer.....	60,000	72,000	89,000	46,000	100,000	370,000
Turkey.....	43,000	24,000	26,000	26,000	35,000	150,000
Quail.....	112,000	67,000	86,000	54,000	72,000	390,000
Squirrel.....	91,000	126,000	146,000	13,000	119,000	490,000
Dove (Total).....	109,000	76,000	105,000	93,000	66,000	450,000
Dove (Early).....	50,000	40,000	61,000	56,000	30,000	240,000
Dove (Late).....	59,000	36,000	44,000	37,000	37,000	210,000
Duck.....	37,000	28,000	36,000	38,000	60,000	200,000
Coot.....	12,000	12,600	3,800	13,500	29,800	72,000
Goose.....	800	2,100	6,800	1,100	500	11,000
Marsh Hen.....	2,100	3,900	1,500	4,200	3,600	15,000
Snipe.....	12,000	3,300	5,600	8,300	8,400	38,000

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.



Plans for construction of bear-proof beehive platforms are available.

of the County Commission and the landowners, one bridge was constructed across the Big Tomoka River and two were built on company roads. In addition, three culverts were placed in grades under construction. Eleven and three-quarter miles of such grades were built and 12 miles of old grade were reworked. Fence construction and

maintenance on the Tomoka area consisted of building three miles of boundary fence on the northwest corner of the Hudson tract, realignment of boundary fence adjacent to Highway 92 on the south side of the area, and additional spot maintenance in other locations. Posted signs were put up as necessary. A total of 129 miles of firebreaks was plowed and 180 miles of old breaks were reworked. Controlled burning was done on 1,900 acres of pineland. Food plots on the area were reworked and planted during the spring months. In December 1956 a bulletin was published on the Tomoka Management Area.

On the Farmton area, two culverts were installed in constructing three and a half miles of new grades by the landowner, and six miles of old grades were reworked. Food plot fences were repaired and put in good condition. Management area boundary signs were replaced as necessary. The landowner reworked 60 miles of old firelane and constructed 13 miles of new firelane by bulldozer while working 25 miles of old firebreak with plow and harrow. A total of 1,300 acres was controlled burned. Three food plots were re-cleared, plowed and seeded. All plots were dressed with lime and fertilized.

Work on the Lake Butler area consisted of maintenance on the storage shed, replacement of fence

wire on the exterior boundary as required, planting and cultivation of 34 food plots, the plowing of 275 miles of firelane, and replacement of timber in two cattle gaps.

On the Camp Blanding area, two checking stations were constructed for use during the hunt, and the hog-proof fence around the portion of the area north of Road 16 was completed. Ninety miles of interior and exterior boundary fence were posted with regular management area signs. The quail food plots cleared in 1956 were widened approximately four feet to give them an average width of 16 feet. Plots planted in the spring of 1957 have an average width of 18 feet. Ninety of the quail food plots are in the north range, while 14 are in the south range. One turkey food plot was planted to combine peas. Eighty-five quail feeders and seven turkey feeders were set up and maintained.

On the Steinhatchee area, all checking stations were treated with wood preservative and maintenance work on exterior boundary fences required approximately 850 posts. Two food plots of two acres each were fenced. Boundary signs were replaced as necessary and 36 miles of fence were painted with identification yellow. Plantings made last year at Little Talbot Island were quite successful. These consisted of Japanese millet, Egyptian wheat, and cattail millet. Waterfowl utilization through the winter was good.

During the year, development in Gulf Hammock consisted largely of fence maintenance, fence construction, road maintenance, and the development of food plots. All checking stations were maintained through the year, and doors were constructed for the equipment shed. Considerable time was spent clearing and improving woods roads, maintaining cattle gaps, and clearing rights-of-way for new fence construction. Approximately 75% of the boundary fence was checked and maintained during the year. Nine food plots were planted or maintained on the area. These received good utilization by deer and turkey. During the controlled hunt, there was a recorded kill of 182 deer, 139 turkey, 5,483 gray squirrels, and 672 ducks.

To summarize activities for 1956-

Table 8. Estimated Total Kill of Each Species by Resident Licensed Hunters During the 1956-57 Hunting Season, as Determined by the Post-Season Random Mail Survey

Species	DISTRICT					State Total
	I	II	III	IV	V	
Deer.....	1,700	2,100	3,300	1,500	2,800	11,500
Turkey.....	5,700	1,600	2,800	2,900	4,000	17,100
Quail.....	437,000	232,000	282,000	183,000	274,000	1,410,000
Squirrel.....	240,000	375,000	425,000	25,000	344,000	1,410,000
Dove (Total).....	464,000	334,000	451,000	378,000	303,000	1,900,000
Dove (Early).....	210,000	182,000	271,000	234,000	133,000	1,030,000
Dove (Late).....	253,000	152,000	180,000	144,000	169,000	900,000
Duck.....	67,000	41,000	45,000	76,000	121,000	350,000
Coot.....	27,000	20,000	10,000	38,000	85,000	180,000
Goose.....	200	500	2,600	200	100	3,800
Marsh Hen.....	2,700	15,300	2,900	8,300	10,600	40,000
Snipe.....	28,000	6,000	7,000	26,000	19,000	86,000

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

57, a total of 450 one-eighth acre food plots was planted in partridge pea on the Gaskin, Blackwater, Camp Blanding, Inverness, Croom, and Aucilla areas. A total of 102 food plots ranging in size from one to five acres was planted and fertilized on all areas combined. Thirty-five miles of grades were planted in grasses on the Gaskin and Aucilla areas. Maintenance of boundary fence was carried on in the Steinhatchee, Tomoka, Lake Butler, Gulf Hammock and Aucilla areas. Maintenance of approximately 60 miles of roads on Gulf Hammock, Tomoka, Sumter-Citrus, and Aucilla areas consisted of clearing and filling in low spots to allow better access. Approximately 350 miles of fire lanes were replowed on the Tomoka, Farmton, and Lake Butler areas. Gates and cattle gaps were replaced or repaired on the Tomoka, Lake Butler, Gulf Hammock, Aucilla, and Steinhatchee areas. Turkey and quail feeders were maintained and serviced on the Camp Blanding, Tomoka, Lake Butler, Gulf Hammock, Aucilla, and Sumter-Citrus areas. Coastal marshes were burned and cover crops planted on existing goose food plots on the St. Marks and Aucilla areas.

In 1957-58, a total of 625 food plots was planted and fertilized in legumes and grasses for quail, deer, turkey, dove and other species of wildlife that utilize plantings of this kind. Of this total, 436 one-eighth acre plots were planted or renovated with partridge pea and lespedeza for quail on the Camp Blanding, Gaskin, Croom and Inverness areas. The other 189 plots, ranging in size from one to five acres, were planted in combine peas and grasses for turkey and deer on the Gaskin, Blackwater, Aucilla, Steinhatchee, Camp Blanding, Lake Butler, Farmton, Tomoka, Richloam, Croom, Sumter-Citrus, Inverness and Gulf Hammock areas. Additional plot work was curtailed by high water on the Gaskin, Aucilla, and Gulf Hammock areas.

All management areas were checked for replacement of boundary line signs. All areas have tops of posts painted in bright yellow approximately 200 feet apart for boundary line identification. This work was redone on the Farmton,

Gulf Hammock, Richloam, Sumter-Citrus, Croom and Inverness areas. Maintenance of boundary fence was accomplished on Gulf Hammock, Steinhatchee, Lake Butler, Tomoka and Aucilla areas.

All buildings, checking stations and equipment sheds were maintained in the form of painting or replacement of lumber on all the management areas.

Road maintenance was carried out on Gulf Hammock, Aucilla, Sumter-Citrus and Tomoka areas. Approximately 900 miles of old and new fire lanes were plowed on Tomoka, Farmton and Lake Butler areas. Gates and cattle gaps replaced or repaired on the Tomoka, Farmton, Lake Butler, Gulf Hammock, Aucilla and Steinhatchee areas. Turkey and quail feeders were maintained and serviced on Blackwater, Gulf Hammock, Lake Butler, Camp Blanding, Richloam, Sumter-Citrus and Tomoka areas. Goose food plots were maintained on St. Marks and Aucilla areas.

W-39-R, Wildlife Investigation of the Central and Southern Florida Flood Control Projects

Throughout the biennium, liaison was maintained with the Central and Southern Florida Flood Control District, the Corps of Engineers, Fish and Wildlife Service, U. S. Geo-

logical Survey, Agricultural Research Service, Extension Service, Soil Conservation Service, Department of Conservation, State Land Use and Control Commission, Florida Development Commission, and various other groups. Assistant Leaders Loveless and Ligas were particularly active in the initiation of an inter-agency alligator weed control program and attended a series of conferences relative to this new problem. They also spent several days in conference and in the field with personnel of the U. S. Geological Survey in connection with transfer of field operation of the gaging program in Conservation Area 2 and parts of Conservation Area 3 from that agency to the Commission.

A preliminary vegetation type map and soils map of Conservation Area 2 were completed. Permanent camp sites in Conservation Area 3 were plotted on aerial photographs and submitted to the FCD for determination of land ownerships as related to camp locations. It was found that most of the camps were situated on state-owned lands and thus subject to removal.

Nine previously established permanent vegetation quadrats were photographed and examined periodically. Four permanent quadrats were established on three tree islands to measure changes resulting

TABLE 9. Estimated Number of Resident Licensed Hunters of Each Species During the 1957-58 Hunting Season as Determined by the Post-Season Random Mail Survey

Species	DISTRICT					State Total
	I	II	III	IV	V	
Deer.....	8,800	10,300	9,500	7,300	12,600	48,600
Turkey.....	10,300	4,700	7,800	4,500	6,400	33,600
Quail.....	18,600	12,300	14,100	8,100	13,900	66,900
Squirrel.....	15,200	19,000	23,300	3,800	16,400	77,600
Dove (Total).....	21,200	17,400	20,700	14,700	14,100
Dove (Early).....	10,600	9,900	11,600	8,700	7,800	48,600
Dove (Late).....	10,600	7,500	9,100	5,900	6,400	39,600
Duck.....	5,400	4,900	6,600	5,900	8,500	31,400
Coot.....	1,400	1,500	1,000	2,700	3,200	9,800
Goose.....	300	600	1,700	200	200	3,100
Marsh Hen.....	700	1,400	600	1,400	600	4,800
Snipe.....	3,500	1,100	2,000	2,600	2,100	11,200
Number of Licenses..	32,400	28,600	37,500	20,300	31,600	150,400

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

from fire, changed water levels, deer browse, and other factors. Conclusions so far drawn from the vegetative studies indicate the following:

(a) Plant successional stages in the Everglades formation normally progress very slowly except under conditions of extreme environmental forces such as fire and drought. When these forces are exerted by the physical environment, rapid and intense vegetational and ecological changes occur. (b) A majority of the vegetational changes occurring as a result of fire and drought appear, however, to be for the most part of a temporary nature. (c) Many plant species in the glades are very fire tolerant. Among the more conspicuous are maidencane, sawgrass, willow, and royal fern. During dry years, many weed species invade the marsh communities. (d) Sawgrass exhibits less tolerance to abnormal water level fluctuations than perhaps any other major species in the glades. It attains its greatest density on sites that are covered with some surface water nine to ten months of the year, but too much or too little of water produces stunted, sparse stands that rarely produce seed. (e) Water levels appeared to be a major factor determining the growing period of most of the semi-aquatic annuals in the area.

Soil samples collected from open marsh or sawgrass peat areas were found to have a pH range of 5.9 to 6.8. The pH of the tree island soils or Gandy peat ranged from 4.1 to 6.3. Water samples were taken during the year at gage stations in Conservation Area 2 and analyzed by the U. S. Geological Survey. Approximately 80 plant specimens were collected, pressed, dried, and mounted on herbarium sheets.

Comprehensive reports on Conservation Area 2 and the Northwest Shore of Lake Okeechobee were prepared and submitted to the construction agencies for their guidance in planning. A preliminary report on the status and life history of the southern bullfrog in the Florida Everglades was prepared.

Project personnel continued during 1957-58 to service water level

gages in the Conservation Areas and located and mapped additional squatter camps in Areas 2 and 3. As a result of this attention to the squatter problem, the Commission adopted a policy at its meeting of 15 February outlining its objections to location of camp structures within the management areas.

Based on the 1957-58 hunting season kill and field observations, it is believed that the deer population of Areas 2 and 3 totaled 7,000 to 9,000 animals prior to the high water period of October and November, 1957. It is estimated that during the hunting season, approximately 550 legal bucks were harvested, and high water during the fall and winter resulted in the loss due to starvation and disease of six to eight percent of the herd. The mean weight of 119.4 pounds for deer taken in Conservation Areas 2 and 3 corresponds quite closely with the figure of 120.7 pounds for deer killed in the Ocala National Forest.

Frogging was quite active in Areas 2 and 3 during the first quarter but limited in the latter part of the second and early part of the third quarters. It is estimated that 5,000 ducks and 2,500 coots were taken during the waterfowl season.

Collection of field data for the vegetative type map of Conservation Area 3 continued throughout the year. Arrangements were made

for the Belle Glade Experiment Station to run chemical analyses of the more common deer browse plants in order to determine nutritive content. Frog studies have continued to determine growth rate, breeding size, production, food habits studies, and movement. Experimental alligator weed control work was discontinued during the high water period. Work accomplished during the late summer with applications of 2,4-D at a concentration of four pounds acid equivalent per acre mixed with "aqua herb" at the same concentration showed these chemicals to be effective in controlling this pest. However, a complete kill was not achieved and additional experimental work is required.

Assistant Leader Loveless presented a paper on Vegetation Clipping Studies at the Southeastern Meeting in Mobile, which won the award for the best paper at the meeting.

W-41-R, Management Area Research

Activities during the biennium have consisted of analysis and collection of kill data during the hunt seasons, vegetation studies in the Inverness Area, deer track counts, deer dart gun experiments, food habits studies, mast studies, turkey feeder studies, cooperative deer disease studies, food plot utilization

TABLE 10. Estimated Total Man-Days of Hunting Pressure Expended for Each Species by Resident Licensed Hunters During the 1957-58 Hunting Season, as Determined by the Post-Season Random Mail Survey

Species	DISTRICT					State Total
	I	II	III	IV	V	
Deer.....	52,100	80,400	79,600	46,800	108,200	367,200
Turkey.....	48,400	26,200	42,900	26,900	38,900	183,200
Quail.....	156,500	87,200	109,700	65,700	98,100	517,300
Squirrel.....	91,900	141,500	178,800	16,700	120,400	549,400
Dove (Total).....	115,200	83,200	105,900	84,800	82,500	471,700
Dove (Early).....	50,200	43,000	58,900	51,000	39,700	242,800
Dove (Late).....	65,000	40,200	47,000	33,800	42,900	228,900
Duck.....	24,100	22,300	34,400	32,000	48,600	161,300
Coot.....	4,100	7,100	3,200	10,600	21,700	46,700
Goose.....	1,000	2,600	6,300	900	1,100	11,900
Marsh Hen.....	1,100	3,100	900	4,500	2,800	12,400
Snipe.....	12,000	2,600	5,400	9,500	8,400	38,000

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

studies, dove bag checks, turkey poult counts, Apalachicola habitat studies, J. W. Corbett Wildlife Management Area studies, and preparation of a technical bulletin on the deer browse studies completed under this project.

The management area hunting pressure and kill during the 1956 season showed totals of 122,938 man-days of utilization, 114,831 man-days of hunting, and a kill of 1,524 deer, 1,685 turkey, 22,000 quail, 33,430 cat squirrel, 1,350 fox squirrels, 680 dove, 3,000 ducks, 374 geese, and 376 snipe. The kill of turkeys in the special season held for the second year in Hardee, DeSoto, Sarasota and Manatee Counties totalled 1,980 birds.

In order to aid in the evaluation of usage of turkey food plots, six soil sterilizing agents were tested to determine which gave best results in keeping vegetation out of the evaluation strips. In these tests, Ureabor and Gerstley Borate both gave good results.

A total of 179 turkey crops collected on the various management areas was analyzed, as were 55 deer stomachs.

Attempts were made to tag deer in the Inverness area through the use of the dart gun, but inclement weather conditions hampered these operations. Three enclosure plots were established in the Inverness

area to determine the value and extent of available browse in live oak hammock areas. One plot was control burned, one disced and fertilized, and one left in natural condition.

One hundred and twenty-nine plant species were collected, pressed, and identified in the J. W. Corbett Management Area. Experimental plantings procedures in the 265 acre water control area there have been successful.

The three ranger districts of the Apalachicola Forest were carefully examined, and field checks made with Forest Service personnel to determine land use practices and their effects upon wildlife. The majority of the land use practices now in use on the Forest are beneficial. TSI work and pine plantation site work may be detrimental.

Recommendations jointly adopted by the U. S. Forest Service and the Commission have been followed quite closely to minimize detrimental effects upon the habitat.

W-43-D, Wildlife Development of the Central and Southern Florida Flood Control Project

Activities during 1956-57 were concerned principally with construction of ponds, posting of the management area, control of noxious vege-



tation, maintenance and repair of equipment, and a wide variety of miscellaneous jobs. No trails nor ponds were cut with the rotary marsh digger during the past year due to extremely low water conditions. Eight miles of trails were cut with a light disc and stalk cutter during the drier season. Six ponds one-quarter acre to one acre in size were built in the southeast corner of Area 2 with a bulldozer. Four large management area signs were made and placed at major access points. Control of noxious vegetation has been directed primarily toward alligator weed and to a lesser extent toward hyacinths. Alligator weed has been experimentally treated with CMU, Aquaherb, 2,4-D and 2,4,5-T.

Eight miles of trail were cut in the south end of Conservation Area 2 in the fall of 1957 with the rotary marsh digger and five miles of trail were cleaned out in May and June. Two ponds were cleared out and one other pond was partially cleared with the rotary marsh digger. All ponds are now available for waterfowl usage and boat traffic.

A total of 2,300 gallons of herbicide mix, at a concentration of four pounds acid equivalent per acre, were applied to hyacinth and alligator weed.

Boundary markers and project equipment were maintained. A building was procured at the Broward County airport in Ft. Lauderdale and furnished with office, laboratory, and equipment storage facilities.

TABLE 11. Estimated Total Kill of Each Species by Resident Licensed Hunters During the 1957-58 Hunting Season, as Determined by the Post-Season Random Mail Survey

Species	DISTRICT					State Total
	I	II	III	IV	V	
Deer.....	1,200	3,100	2,800	1,400	4,000	12,600
Turkey.....	5,900	2,400	5,400	2,800	3,600	20,200
Quail.....	693,800	372,900	424,500	245,900	288,800	2,026,000
Squirrel.....	252,200	454,200	460,000	31,400	332,400	1,530,200
Dove (Total).....	475,700	363,800	498,400	339,600	271,200	1,948,600
Dove (Early).....	223,900	198,000	278,800	213,900	132,300	1,046,800
Dove (Late).....	251,800	165,800	219,600	125,700	138,900	901,800
Duck.....	36,400	31,400	42,300	60,600	89,400	260,200
Coot.....	22,600	18,100	8,000	19,100	58,300	126,100
Goose.....	400	800	2,500	300	200	4,000
Marsh Hen.....	2,100	12,000	2,500	5,200	11,000	32,700
Snipe.....	33,900	7,100	7,900	26,700	20,000	95,600

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

W-44-D, Lake Miccosukee Development

This project was designed to permit cooperation by the Game and Fresh Water Fish Commission with the County Commissioners of Leon and Jefferson Counties, along with the Trustees of the Internal Improvement Fund, for the construction of a dike and control structure on Lake Miccosukee. The Commission's contribution is to partially finance the installation of rip-rap along the dam and at the control structure. This work would be done by the counties, the Commission being responsible for purchase of materials. Since no rip-rapping has been done, however, the project has been entirely inactive.

W-45-D, South Florida Management Area Development

This project provides for developmental activities on the Avon Park, Collier, Big Cypress, Devil's Garden, Fisheating Creek, J. W. Corbett, Lee, Okeechobee, Holopaw, and Webb Management Areas.

Activities on the Avon Park area in 1956-57 included clearing and

discing of a five acre food plot, clearing 10 miles of jeep trail, and the planting of 12 acres to bahia grass, carpet grass, millet, combine peas, hegari, Egyptian wheat, and partridge peas. Food plots were fenced and all exterior fencing was checked and posted.

During the first three quarters of the year on the Collier area, 12 miles of abandoned logging grade were disced, fertilized and seeded to Pensacola bahia, sunflowers and pigeon peas. Approximately 35 miles of boundary were checked and reposted. Twenty-five miles of abandoned logging grade were cleared of cross ties by the TD-14. Twenty small bridges were decked with cross ties on this grade. During the last quarter, 10 miles of the abandoned logging grade were disced with the Ford tractor and seeded to carpet grass and Pensacola bahia. Seven frame checking stations were repainted and maintained on the Fisheating Creek area, five wells were put down to provide water at these stations, and the entire exterior boundary was reposted prior to the hunting season. Ten acres of turkey food plots were planted in

grasses, peas and chufas. A total of 187 turkeys was trapped on Fisheating Creek and released on 14 areas. An additional 35 birds were caught at Myakka State Park.

A five year management plan was drawn for the Corbett area under which development and maintenance features were outlined in detail based on a budget allotment of regular project funds and the annual payment to the Commission by Pratt-Whitney Corporation. An eight foot fence has been constructed around a 100x150' area at the site of the vacated Amerada oil well to enclose an equipment shed and equipment storage area. A new Ford tractor was recently purchased with Pratt-Whitney funds and a new fertilizer distributor and grass seeder also purchased. Ten acres have been disced, planted and fertilized, while approximately seven miles of fence have been repaired and posted during the last quarter. Two of the original three turkey feeders have been moved to better locations and a new feeder has been constructed.

One checking station was moved

TABLE 12. Tabulation of Hunting Pressure and Game Killed on State Operated Management Areas During the 1956-57 Hunting Season

Area	Man Days Utilization	Man Hunt Days	GAME KILLED								
			Deer	Turkey	Quail	Squirrel		Dove	Duck	Goose	Snipe
						Cat	Fox				
Ocala.....01	41,800	38,100	597	36	142	2,174	103	1	14	0	0
Osceola.....02	1,600	1,500	58	0	0	138	8	0	0	0	0
Liberty.....03	1,300	1,300	54	3	0	1,281	22	0	20	0	0
St. Marks.....05	823								135	352	
Leon-Wakulla.....06	2,200	2,200	65	2	1	2	4	0	0	0	
Gulf Hammock.....11	13,400	11,900	185	142	54	5,483	136	0	672	0	0
Avon Park.....12	3,400	3,400	30	118	4,306	319	10	118	29	0	274
C. M. Webb.....13	718	718			3,481						4
Steinhatchee.....14	7,300	6,500	92	116	66	2,614	43	27	235	0	3
Farmton.....15	5,700	5,300	79	59	284	897	133	7	12	0	1
Tomoka.....16	2,100	2,000	40	11	40	308	19	15	1	0	0
J. W. Corbett.....17	4,900	4,800	36	60	1,212	5	0	59	15	0	2
Collier.....18	9,400	8,700	87	504	890	249	223	27	35	1	2
Sumter-Citrus.....20	2,800	2,500	2	92	100	5,649	75	36	374	0	46
Fisheating Creek.....21	5,700	5,400	0	378	5,610	992	48	170	189	0	0
Aucilla.....22	8,700	8,100	97	42	125	9,257	0	1	916	21	2
Lee.....23	1,300	1,300	2	33	3,238	52	49	115	239	0	37
Richloam.....24	2,600	2,500	21	30	203	1,824	106	19	101	0	1
Gaskin.....26	2,000	2,000	29	2	484	42	40	4	1	0	1
Holopaw.....27	440	410	5	6	266	0	2	2	1	0	1
Croom.....28	3,700	3,500	29	17	56	1,258	283	11	43	0	0
Okeechobee.....29	380	380	3	14	832	0	3	52	25	0	2
Blanding.....30	1,500	1,500	13	20	615	895	48	0	6	0	0
Total.....	122,938	114,831	1,524	1,685	22,008	33,439	1,355	681	3,063	374	376

on the Webb area and during the year two bridges were redecked. Road maintenance has largely been taken care of by county personnel. Approximately 11 miles of exterior fence were constructed by one of the grazing lessees, Mr. T. F. Stanaland, during the summer of 1956. Since that time, approximately 11,000 fence posts have been cut and gathered for future fence construction. Work will continue as soon as weather permits. Fifteen miles of exterior fence were checked and posted as necessary. Approximately two miles of road clearing were completed in the Big Cypress Management Area.

During the first quarter of 1957-58, high water and continuous rains seriously hindered field work on all areas. Almost continuous pumping was necessary in the tomato fields on the Corbett Area, but good results were obtained.

An equipment shed was completed at Fisheating Creek and work started on similar sheds for the Corbett and Collier areas. Thirty acres of rice and five acres of Japanese millet were planted on the Corbett

area, along with lesser amounts of sesbania, Egyptian wheat, smartweed, carpet grass, and Pensacola bahia. The entire boundary fence was repaired and posted.

On the Webb area, two miles of new fence were constructed and three miles of existing fence repaired. Road repairs were also made there. Thirty miles of new road boundary were posted in the Collier area. The checking station for the Holopaw area which was used at Titusville during the waterfowl trapping season was returned to Holopaw and set up for the hunt. A 20 foot bridge on this area was repaired with locally cut cypress stringers.

Early in the second quarter, Project Leader Gainey was transferred to the position of Regional Manager, and Assistant Leader Powell was named Project Leader. During this period, land acquisition was completed in Hendry County for the establishment of the Devil's Garden Management Area. Considerable time was required in the supervision and operation of hunts on the various management areas assigned to this project due to the fact that no replacement for assist-

ant leader was secured. Although managed hunt work was the principal activity during the second quarter, fence repair and reposting were carried out on a number of areas, and the equipment sheds on the Corbett and Fisheating Creek areas were completed. After all hunts were completed, check stations and equipment were maintained and all items put in storage as required.

Much of the time of all personnel on the project was spent in turkey trappings at Fisheating Creek. One hundred and seventy-six turkeys were trapped between 6 January and 14 March. These were distributed in 11 south Florida areas. Turkey feeders were put back in operation after the close of the hunts. Fifty quail feeders were installed on the Devil's Garden area, 50 on the Lee area, and 16 on the Okeechobee area. Ninety seven thousand acres were controlled burned by landowners, grazing lessees, and Commission personnel.

In the last quarter, approximately 170 miles of boundary fence were checked for needed repairs and posting on the Corbett, Okeechobee, Avon Park, and Webb areas. Ten

TABLE 13. Tabulation of Hunting Pressure and Game Killed on State Operated Management Areas During the 1957-58 Hunting Season. These Are Areas Using Check Station.

Area	Man Days Utilization	Man Hunt Days	GAME KILLED										
			Deer	Turkeys			Quail	Squirrel		Doves	Ducks	Geese	Coots
				Toms	Hens	Total		Cat	Fox				
Ocala.....01	59,000	52,100	723	9	5	14	175	957	72	6	3	0	0
Osceola.....02	2,600	2,500	54	0	0	0	6	85	11	0	0	0	0
Liberty.....03	1,400	1,400	46	0	3	3	0	865	30	0	8	0	0
St. Marks.....05		861									64	351	
Gulf Hammock.....11	16,600	14,300	137	28	38	66	42	5,831	115	0	377	0	0
Avon Park.....12	4,300	4,300	19	36	36	72	3,714	294	19	274	24	0	0
C. M. Webb.....13		556					3,800						
Steinhatchee.....14	6,800	6,100	84	29	22	51	319	2,694	38	34	25	0	7
Farmton.....15	7,000		101	28	34	63*	415	1,517	169	12	28	0	23
Tomoka.....16	3,200		62	15	22	37	94	202	30	0	2	0	0
Collier.....18	10,100	9,300	82	108	141	250*	1,273	178	117	11	54	0	9
Sumter-Citrus.....20	2,000	1,800	1	26	40	66	122	3,780	22	5	53	0	13
Fisheating Creek.....21	6,600	6,200	0	148	233	381	4,660	1,383	61	357	254	0	8
Aucilla.....22	5,900	5,800	36	4	10	14	26	4,327	30	0	172	0	0
Lee.....23	600	600	1	5	4	9	2,173	37	82	68	219	0	1
Richloam.....24	3,900	3,800	24	22	41	63	296	2,673	162	12	80	0	2
Holopaw.....27	1,000	900	1	10	10	20	186	8	5	1	0	0	0
Okeechobee.....29	450	400	3	4	9	13	502	0	0	13	10	0	0
Camp Blanding.....30	4,700	4,700	44	14	8	22	1,673	1,022	143	13	0	0	0
Hendry.....32	800	800	0	10	8	18	1,986	3	32	179	6	0	0
Apalachee.....33	340	340					315	39	7	3	345	0	19
Total.....			1,450	554	789	1,345	21,776	25,895	1,145	988	1,724	351	82

* One turkey killed for which no sex was recorded.

Not able to correct Farmton and Tomoka by day, and hence unable to delete non-hunting days.

miles of new fence is in the process of construction on the Corbett area. Seventy acres of food plots were planted on the Corbett, Fisheating Creek, and Avon Park areas, and 40 acres of improved pasture put out on the Webb area. During the last quarter, a marl mining operation by contract was begun on the Webb area.

W-46-D, Woodruff Reservoir Development

This project became effective on 8 January 1957. Several years have been required to establish the project because of considerable uncertainty as to the status of the lands involved. In March 1955, the Commission received a license from the Corps of Engineers for the use of 7,273 acres of land and water in the Jim Woodruff Reservoir. During the summer of 1955 with the passage of Public Law 300, the status of these lands became uncertain since this law provided for their resale to previous owners. After considerable effort on the part of the Game Commission and many other interested groups, a bill was introduced in the House of Representatives in May 1956 which provided for the retention in public ownership of certain of these lands. The bill subsequently passed and approximately 5,000 acres of the original tract were retained by the Game and Fresh Water Fish Commission.

Work on the area during the latter half of 1956-57 has consisted primarily of getting a management program set up and underway. To permit necessary water level control, six dikes were built and two canals dug. Three of the dikes and one of the canals contain culverts equipped with slide gate valves. Drawdown operations will be accomplished by pumping.

Approximately 20 acres of watershed were planted in the permanent shallow water areas. A 104 acre goose pasture was created on a share crop basis by the planting of corn. Half of the corn will be harvested in the fall by the sharecropper and oats or rye grass will be sown on the land from which the corn is harvested. A fence enclosing approximately 300 acres has been erected around this field. An island of approximately four acres

nearby will serve as headquarters for a flock of captive decoy geese. An access road to this island was constructed, and the island was fenced early in the fall of 1957. Posts were placed at 100 foot intervals enclosing an area of approximately 90 acres around the island. This will be closed to all access. Posting of the remainder of the area with management area signs was completed.



Work during the first quarter of 1957-58 consisted of water drawdown operations on three sub-impoundments and the seeding of exposed lands to waterfowl food plants. Drawdown was accomplished through the use of a 6,000 gallon per minute mobile pump which worked most satisfactorily. High rainfall and seepage, however, resulted in rather poor stands of all species except Japanese millet.

A controlled hunt during the second and third quarters resulted in a kill of 371 ducks, 19 coots, 315 quail, 46 squirrel, and 3 doves. Ring-necked, woodducks and mallards predominated in the bag. Approximately 5,000 ducks wintered on the area. Forty-nine captive wild geese were obtained from Wheeler National Wildlife Refuge and placed in the five acre island enclosure. This enclosure had previously been seeded to oats. Oats were also planted in the half of the 100 acre goose pasture where corn was harvested by the sharecropper.

A combination boathouse and

storage shed was built during the second quarter, and the eastern boundary of the area marked with pilings driven at 500 foot intervals.

Work during the third quarter included the setting up of crop leases with landowners for 1958. One mile of three-strand barbed wire fence was constructed on the area boundary. Work was begun with the Corps of Engineers to place approximately 350 acres of sub-impoundment under water level control. Three hundred and twenty acres of cropland have been leased to farmers for this year. Under these leases, the cropper agrees to leave a portion of the crop in the field unharvested. One hundred and twenty acres have been leased to sharecroppers. The sharecropper agrees to leave half the crop of corn in the field unharvested and to plant oats or rye on the land from which he removes his half.

W-47-D, Guano River Development

Documents on this project were approved 6 January 1958, although the Commission's interest dates back approximately ten years. Approximately two and one-half years preceding initiation of the contract were required to make the necessary lease arrangements with the landowner. Under this agreement, the Commission will pay the landowner the agreed cost of the dam over a ten year period. At the end of this time, title to the dam, control structure and right-of-way will pass to the Commission. Continued reduced rental fees for 15 more years will give to the Commission title to all of the impounded area.

Construction of the dam began on 19 January, and all major work was completed by late April. The dam is an earth hydraulic fill structure approximately 1,700 feet long and 50 feet wide at the top. The control structure consists of three 72 inch corrugated asphalt covered pipes with risers and stop logs. The final work to be done on the dam is the sprigging and fertilizing, which will be completed during the first half of July.

Water levels in the impoundment at the end of the biennium stand at approximately 3.0 feet, while normal pool level will be 4.0 feet to 4.5 feet MSL. ●



FISHERIES DIVISION

This Biennium has seen a basic change in the organizational operation of the Fisheries Division. Previously, all phases of the fishery program were directly administered from the central office at Tallahassee. Due to the expansion and increased activities of this Division it became necessary to establish a more efficient method of operation among personnel. This has resulted in being able to continue regular duties and services as well as including additional projects without unnecessary loss of time and effort by an administrative overload. General supervision of all Fisheries projects continues to be processed through the central office, but details are now handled by field technicians and personnel in charge of specific programs and projects. These

projects are divided into five major categories, Research (Dingell-Johnson), Hatcheries, Regional Services, Fish Restoration and Access, and Noxious Vegetation Control. The following is a brief summary of these activities, with further information available upon request.

DINGELL-JOHNSON PROGRAM

The Dingell-Johnson Program in Florida is designed to be of benefit to the sport fisherman. Financing

of the program is obtained by a return from the Federal Government of tax money on fishing tackle. The amount allotted to the state is based upon the number of fishing licenses sold and the geographical size of the state. This allotment is matched by 25% state funds.

The Florida program has provided the experimental basis for the Game and Fresh Water Fish Commission's several applied fishery programs, as well as accomplishing basic surveys and formulation of policies affecting much of the future fresh water fishing in the state.

A few examples of the present services of this program are:

1. The establishment of techniques for controlling water hyacinths,
2. Evaluation of results of haul

E. T. HEINEN—Chief



Fisheries crew gathers for final briefing before selective poisoning of gizzard shad in Lake Apopka. Lake will be treated for three successive years.



Gizzard shad is Florida's Number One undesirable fish species in fresh waters. Poisoning of shad in Lake Apopka is world's largest selective poison operation.

seining,

3. Development and application of selective poison techniques,

4. Provided basic survey and formulation of policies regarding proper management of important sport fishing lakes,

5. Evaluation of the potential of the striped bass fishery, and

6. Provided basic surveys and maps of lakes and rivers systems.

During the biennium the following projects were active:

Lake And Stream Survey

The Lake and Stream Survey was initiated in July, 1954. Its main purpose is to collect and catalog information concerning public lakes over 150 acres in size, and all important streams. Where water areas with fishery problems are encountered, recommendations are made by the survey team to correct the troubles.

Information of interest to sports fishermen is published periodically in fishery bulletins, and distributed to interested parties. Other detailed biological data are kept on file at the Commission office in Tallahassee.

One bulletin entitled "Fish and Fishing in Leon and Gadsden Counties, Florida" has been published and distributed. Additional copies are on hand at the office in Tallahassee. The next publication is to be on the Apalachicola River system. The field work and preliminary work towards finishing this publication has been completed.

The Lake and Stream Survey team has also completed and published

its work on North Bay near Panama City in Bay County, Florida, and is finishing field work on numerous other lakes and streams in Northwest Florida.

A second unit of this project was recently added and assigned to work in the southern part of the state where it is currently studying the canals in the Everglades Region.

River Basin Fisheries Investigation

The River Basin Fisheries Investigations was undertaken to study proposals and make recommendations regarding fish management on the lands and waters included in the Central and Southern Florida Flood Control District project for which the U. S. Corps of Engineers is the planning and construction agency. The project boundaries include all or part of 17 central and south Florida counties and some of Florida's major rivers and lakes, i.e., the Kissimmee River, Lake Okeechobee, Caloosahatchee and a major portion of the St. Johns River.

The total value of surface water utilization administered directly or indirectly by the Game and Fresh Water Fish Commission is \$128 million dollars annually. Of this total, sport fishing alone makes up \$83 million dollars annually; these values are increasing about \$3 million dollars annually. The fresh waters within the River Basin Fisheries Investigation project are major contributors to this already large and ever increasing business. Tourism is one of Florida's biggest businesses, contributing over a billion dollars in 1955, and our fresh water re-

sources are an integral part of tourism and associated recreation sought by residents and visitors alike.

The Game and Fresh Water Fish Commission is acutely aware that a water control project of the type being formulated for central and south Florida could seriously impair the fresh water resources. Consequently, the fisheries investigations of the River Basin Fisheries Investigation project was formed to study these engineering proposals. This project was initiated November 1, 1955 as a cooperative Federal-State study financed through the provisions of the Dingell-Johnson Act.

The purpose of this project is to act as technical advisors to the Corps of Engineers, the planning agency, on the mitigation of losses, and the possible increment of benefits to a valuable fishery resource.

Before initiating this fisheries project, a study was made to determine the major factors of flood control construction that would affect the fishery resource. It was found that ditching and diking, water fluctuation control, and the subsequent effects each would have upon the fishery population and, necessarily, the economics, were the primary factors.

Ditching and diking takes many forms, i.e., channelization of a river, dikes placed on the edge of an existing flood plain, etc. In most cases this construction work will be done in shallow water or other areas that are biologically important and must be maintained if the existing population of fishes are to continue to perpetuate themselves in numbers great

enough to provide good fishing. This shallow water, littoral area, is thought of as the nursery grounds for most species of fish, and construction work often seriously damages or destroys these valuable food producing and spawning areas.

Fluctuating water levels are highly desirable from the standpoint of fish production. Planning in the River Basin Fisheries Investigation Project specifies water level manipulation that varies considerably with existing conditions.

Economic information is compiled on a state-wide basis as well as for specific areas.

Project activities are designed to inventory existing biological conditions in areas under consideration for flood control construction.

Biological data when coupled with economic data gives a relatively complete picture of what the effects of construction will be on an area as well as the pre- and post-construction value of the area. All data, along with recommendations, are submitted to the Corps of Engineers in the form of reports. The major reports submitted during the Biennium were Kissimmee River, St. Johns River, and, soon to be released, the Caloosahatchee River.

Selective Poisoning

Selective poisoning techniques as worked out by the Fisheries Division have continued to be successful.

Coordinated work efforts is important to good fisheries management research. Without good research you cannot have good fish management.

ful. The destruction of large poundages of gizzard shad and thread-fin shad has resulted in tremendously improved sportfishing, particularly in lakes which have large populations of black crappie. Lake Apopka has twice been treated, and will have its third treatment in 1959. Apopka is the (48 sq. miles) largest lake in the world to be placed under this form of management.

In addition to Apopka, Newnan's Lake and Lake Trafford have also been treated.

Experiments continue on the use of newer and cheaper chemicals to reduce forage fish populations other than shad.

Data Analysis

A new project to record data on punch cards has recently been instigated. This project will form the basis for assembling future data and should easily prove to be a tremendous aid in planning management programs for the countless lakes and streams in the state.

HATCHERIES

Production of hatchery raised fish is limited to three species, bass, bluegill, and shellcracker. All three of these game fish are distributed from the Holt Hatchery in west Florida, while only bass are produced at the other hatchery, located in Winter Haven. Additional bass and bluegills are obtained from the U. S. Fish & Wildlife Service Hatchery in Welaka

through a cooperative arrangement that has recently been developed. In this manner, fish are produced for a minimum cost to the sportfishermen.

REGIONAL SERVICES

Of particular importance to a great many fishermen in the state are the services provided by the Regional Fishery Biologists.

These Regional Biologists make investigations following fish kills and suggest preventive measures for future application. In some instances, forms of pollution are detected and those responsible are contacted for discontinuing the practice.

Numerous inquiries are answered each day by these Biologists who find that they must be experts in the fields of vegetation control, bait production, lake and pond management, and even commercial fishing.

The Regional men probably have more direct contact with the fishing public than any of the other Fishery personnel. Their almost daily pond inspections, renovations, and stocking trips, have meant hundreds of acres of additional fishing waters to the state.

Fish Restoration Program

The most recent program of the Fisheries Division is the result of the 1957 Legislature of the State of Florida which passed the following bill pertaining to the improvement of fresh water fishing and recreational facilities.

Fisheries research should be aimed at practical application. Research plus management equals good fishing for all Floridians.





Aerial treatment of water-clogging hyacinths with special chemicals has cleared thousands of acres of fishing waters in Florida.

"There is hereby appropriated from the General Revenue Fund of the State of Florida for the 1957-59 biennium the amount of \$250,000.00 to be used exclusively by the Game and Fresh Water Fish Commission to improve fresh water fishing throughout the State through a program of lake construction and rehabilitation of existing waters including rough fish control and other management techniques."

This act was approved by Governor Collins on June 18, 1957 and took effect on July 1, 1957.

Funds from the Fish Restoration Act are being used for (1) public lake construction, (2) public access areas, (3) renovation of existing waters and (4) rough fish control.

A large amount of time was spent at the beginning of the program checking numerous proposed lake sites and investigating access areas on which boat ramps could be constructed.

The chemical for the initial poisoning of undesirable fish at Lake Apopka was purchased with funds from this appropriation. The first two applications of rotenone for the selective control of gizzard shad resulted in the elimination of approximately thirteen million pounds of shad.

A public lake covering 80 acres has been constructed in Okaloosa County, and a lake covering 107 acres constructed in Santa Rosa

County. These counties were chosen for lake construction since they contain no lakes and a limited number of streams which are of value to the angler. The Santa Rosa County Lake was constructed in the Blackwater Forest on lands belonging to the Florida Forest Service, and Silver Lake constructed on land donated by an individual. These lakes will provide additional fishing waters for a section of the state which has shown a large increase in population in recent years and which had little fishing waters.

Airboats are used by fisheries crews when control-spraying hyacinths or selectively poisoning gizzard shad to improve fishing.



A small tumbler type dam was installed, in cooperation with the State Road Department, on Compass Lake in Washington County, and a gate valve installed in the dam of Merritts Mill Pond at Marianna. These installations will result in stabilized water levels and provide a means by which other fish management techniques can be used in the future.

The State of Florida contains over 30,000 named lakes, plus many streams, with only 214 lakes being clearly owned by the State. The total acreage covered by fresh water is 2,435,200 acres. Inadequate public access areas and boat launching facilities have prevented the maximum utilizations of many lakes and streams by both boaters and fishermen. As of January 1, 1959, a three-man ramp installation crew, in cooperation with local counties, has installed forty boat ramps located in twenty counties. To insure continued public use of our lakes and streams, it is imperative that access areas be obtained on those waters which are in most need of such access. A majority of the ramps have been constructed on county and state property, with the various counties preparing the sites and providing access roads. For example, the Suwannee River, which was desperately in need of launching facilities, has now been opened to the public at various locations from the

mouth of the river to Suwannee Springs north of Live Oak.

Even though the Fish Restoration Program is the newest addition to the Fishery Division it has proven to be most beneficial to the fisher-

men and boaters of the state. The groundwork has now been laid to proceed rapidly with the construction of other facilities and the utilization of the latest fish management techniques to insure and perpetuate the heritage of our fishermen.

BOAT RAMPS COMPLETED AS OF MARCH 2, 1959

DISTRICT I

County	Location	Water
Hardee (2)	Gardner Ramp	Peace River
	Zolpho Springs Ramp	Peace River
DeSoto (2)	Near Brownville	Peace River
	Near Ft. Ogden	Peace River
Highlands (1)	Burnt Bridge Landing	Arbucke Creek

DISTRICT II

Suwannee (2)	Florida Sheriffs' Boys Ranch	Suwannee River
	Dowling Park Ramp	Suwannee River
Dixie (4)	Purvis Landing North of Oldtown	Suwannee River
	Suwannee Ramp (Creek off Suwannee River at Suwannee)	Suwannee River
	At end of SR 358 near Jena	Steinhatchee Creek
	Governor Hill Lake	Governor Hill Lake
Gilchrist (4)	At end of County Road known as L. R. Thomas Grade	Santa Fe River
	Rock Bluff Ferry	Suwannee River
	Hart Springs Park	Suwannee River
	Wannee	Suwannee River
Clay County (1)	Middleburg	Black Creek
Levy (1)	Gulf Hammock	Wekiva River

DISTRICT III

Santa Rosa (1)	Deaton Bridge	Blackwater River
Okaloosa (3)	Bryant Bridge	Blackwater River
	North of Crestview	Silver Lake
	Milligan Ramp	Yellow River
Jackson (2)	Veneer Bridge	Chipola River
	Peacock Bridge	Chipola River
Gadsden (1)	South of Midway	Lake Talquin
Jefferson (2)	Wacissa Ramp	Wacissa River

DISTRICT IV

Indian River (1)	Lake Wilmington	Lake Wilmington
Broward (2)	Andytown Ramp	North New River Canal
	Andytown Ramp	Conservation Area No. 3
Hendry (2)	LaBelle Ramp	Caloosahatchee River
	L-1 Canal (South of Clewiston on SR 832)	L-1 Canal

DISTRICT V

Marion (2)	Orange Lake	Orange Lake
	Lake Kerr	Lake Kerr
Putnam (5)	Crescent City Ramp	Crescent Lake
	Welaka Ramp	St. Johns River
	East Palatka	St. Johns River
	Nashua	St. Johns River
	Georgetown	St. Johns River
Volusia (1)	Lemon Bluff	St. Johns River
Lake (1)	Mt. Dora at Gilbert Park	Lake Dora



Lakeland's Lake Bonnie after Fisheries Division crews control noxious vegetation. (See bottom picture.)



Installation of boat launching ramps is an extremely popular type of improvement work.



Collection of good data on Florida fish and fishing conditions is a never-ending task.

Before chemical treatment, Lake Bonnie was heavily choked with cattails and hyacinths. (See top picture.)



NOXIOUS VEGETATION CONTROL

This program is financed in part through a special appropriation from the Legislature. This biennium included parts of two separate appropriations plus about \$100,000 of State Game Fund revenue.

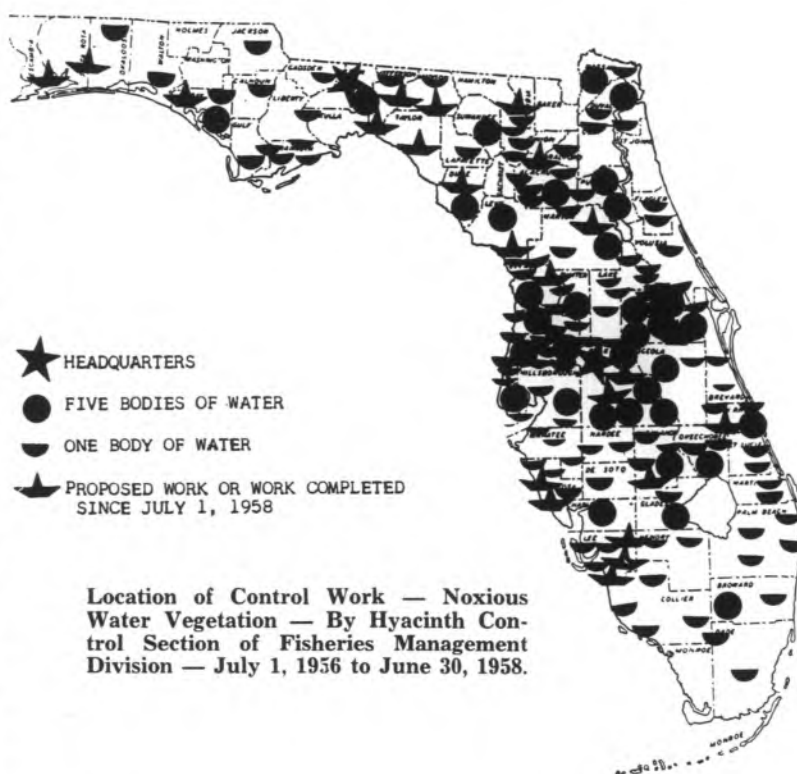
During the period from July 1, 1956 through June 30, 1958, 272 different bodies of water were treated. This amounted to a total of 51,954 acres of treated vegetation. Since June 30, 22 additional bodies of water have been included in this list.

To accomplish this immense task, six airboats, three outboard motor units, one full time airplane, one part-time airplane, and ten vehicles are employed by a staff including secretarial, mechanical, shop, field, and administrative personnel.

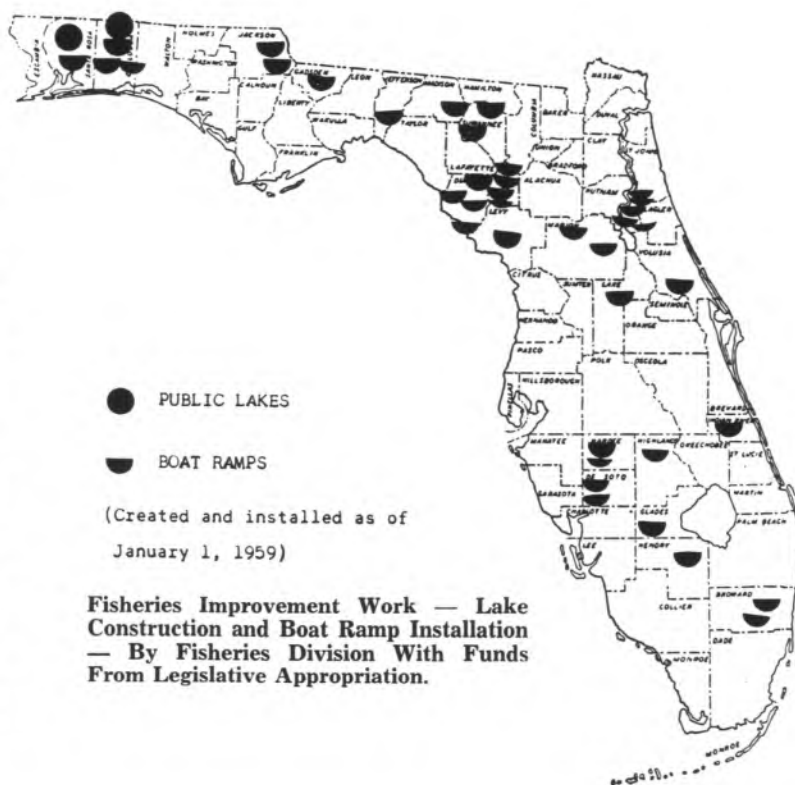
A process of screening and testing many of the new chemicals now available for vegetation control purposes was created as a part of the noxious vegetation control program during the past year. Working closely with the manufacturers, various combinations of chemicals are sprayed on different forms of vegetation in an effort to determine the most efficient and economical controls. This screening process has resulted in additional services as some types of vegetation are now being controlled which formerly showed little signs of damage after treatment.

Cost figures show that one acre of hyacinths costs about \$5.50 per acre to kill. This includes all costs involved in the program. Controls for other types of vegetation generally cost more per acre as more expensive chemicals are usually required than that needed for hyacinths.

It should be noted that a close working relationship is maintained between this department and similar departments of county, state and federal agencies. This is particularly true with the U. S. Department of Agriculture Laboratory in Ft. Lauderdale, the U. S. Corps of Engineers, and the Central and Southern Florida Flood Control District. Plans are now being made to participate with the Corps in a Federal aid program for controlling Noxious Vegetation. ●



**Location of Control Work — Noxious
Water Vegetation — By Hyacinth
Control Section of Fisheries Management
Division — July 1, 1956 to June 30, 1958.**



(Created and installed as of
January 1, 1959)

**Fisheries Improvement Work — Lake
Construction and Boat Ramp Installation
— By Fisheries Division With Funds
From Legislative Appropriation.**

FISCAL DIVISION

The Fiscal Department is a major division of the general administration of the Game and Fresh Water Fish Commission. This department is responsible for the accountability of all funds which comprise the State Game Fund, as well as expenditures encountered in carrying out the conservation program over the entire state.

The revenue, with which the Commission operates, is derived mainly from the sale of hunting and fishing licenses, both sport and commercial.

Other revenue results from timber, oil, grazing, stumpage, and marl leases, sale of commission-owned equipment, and court case fees resulting from arrests for fish and game law violations.

Contrary to general opinion, the Commission does not receive any money from the state general tax revenue. The reason for this is stated in the Constitutional Amendment which created the Commission and established it as a self-supporting agency.

The Commission also receives reimbursement from the Federal Government under the Pittman-Robertson program for game management and the Dingell-Johnson program for fisheries management. The amount received each year is based partially on the total number of fishing and hunting license holders for the previous year or years.

The Fiscal Department has many varied duties pertaining to the vital financial transactions of the Commission. It is responsible for checking the reports submitted by the 67 county judges on the sale of fishing and hunting licenses, and various type permits. The accountability of all licenses printed at the beginning of the year is a major responsibility of this department and must in turn be verified by the State Auditing Department.

Each invoice submitted to the Department is carefully checked with reference to totals and extensions, as well as determining whether money is available prior to expenditure and submission to the State Comptroller for payment.

The sale of commercial licenses, such as Retail and Wholesale Fish Dealer's, Commercial Boat, Boats for Hire, Game Farm, Guide, etc., are sold by the Tallahassee office only upon receipt of the application. The licenses, which expire at the end of the fiscal year, are forwarded directly to the applicant.

This department is responsible for the recording of all arrests and, when each case is disposed of, it in turn bills the counties for the arresting fees and mileage allowed by law. During the 1956-57 fiscal year, 2,451 arrests resulted in 2,420 convictions and in turn gave the Commission a total revenue of \$26,675.32. In 1957-58, 3,169 arrests resulted in 3,040 convictions bringing in \$29,707.95 to the Commission. For the two years mentioned above, the Fiscal Department recorded and billed the counties for 5,620 court cases resulting in a total revenue of more than \$56,000.00 for this period.

Another very important section of the Fiscal Department is the Property Section, which has the responsibility of recording all purchases of equipment. This section, under the supervision of a property officer, records all property memorandum receipts in the central office at Tallahassee. The property officer makes periodic state-wide equipment inspections in an effort to keep the cost of operation on all types of equipment to a minimum.

JOEL MCKINNON
—CHIEF—

As shown on our report, the cost valuation of our fixed assets at the end of 1956-57 were \$1,314,814, which was an increase of \$45,502 over the previous year. The cost evaluation of fixed assets at the end of 1957-58 were \$1,392,924, an increase of more than \$78,110.

This section of the Fiscal Department endeavors to keep operating expenses of equipment as low as possible and in turn assists in the purchase of proper equipment for each section of the state.

Without going into detail the fiscal department recorded receipts in the amount of \$2,237,045.49 during the 1956-57 fiscal year and \$2,457,510.04 during the 1957-58 fiscal year, or a total for the biennium of \$4,694,555.53. In lieu of these receipts, we also recorded the expenditures of \$2,077,953.74 for 1956-57 and \$2,261,764.21 for 1957-58, or a total for the biennium of \$4,339,717.95.

The average monthly receipts for the biennium covered by this report was \$195,604.58 with an average monthly expenditure of \$180,821.75.

Since the 1954-56 biennium, the receipts of the Commission have increased over \$506,000.00 by the end of this biennium—1956-58—whereas, the expenditures have increased for the same period over \$476,000.00.

Because of the Commission's financial operations, whereby all monies received in the State Game Fund are disbursed for improved conservation and law-enforcement programs, the Commission's disbursements for the past ten-year period have steadily increased in proportion to the increase in receipts. The Fiscal Department has not increased personnel during the past biennium, even in view of additional personnel and operation in other regions and departments which in turn have increased the accounting problems of the Fiscal Department.

The following pages contain a complete statement of Commission receipts and expenditures for the fiscal years 1956-57 and 1957-58 as well as the first six months of the fiscal year 1958-59, ending December 31, 1958.

Also included are circle-graphs demonstrating financial expenditures in various departments, as well as comparative receipts, and additional information. ●

FLORIDA GAME AND FRESH WATER FISH COMMISSION

Financial Statement — July 1, 1956 Thru December 31, 1958

Statement of Cash Receipts, Disbursements and Balances

	1956-1957		1957-1958		July 1, to December 31, 1958	
	Item Total	Source Total	Item Total	Source Total	Item Total	Source Total
Receipts:						
Beginning Cash Balance July 1		\$ 99,160.55		\$ 110,091.75		\$ 146,658.24
License Sold by County Judges	\$1,519,296.00		\$1,581,931.50		\$1,054,891.75	
License Sold by State Office	154,413.70		185,677.90		98,517.90	
Revenue from Other Governmental Agencies	319,524.37		453,348.84		71,936.66	
Revenue from use of property	33,237.16		25,480.72		19,893.61	
Revenue from Sale of Fixed Assets	32,562.95		23,542.12		18,501.88	
Revenue from Publication of Magazine	24,290.39		24,800.10		15,954.98	
Revenue from Other Sources	5,530.82		3,476.07		1,788.87	
Total Cash Receipts Schedule "A"		2,088,855.39		2,298,257.25		1,281,485.65
Cancelled & Restored Warrants		29.55		115.55		
Adjustment Account						211.64
County Judges Account						70.85
Special Building Fund		49,000.00		49,000.00		20,000.00
Total Revenue Available		2,237,045.49		2,457,464.55		1,448,426.38
Disbursements:						
Salaries	1,121,582.27		1,257,194.72		643,285.77	
Repairs to Equipment	60,819.45		79,374.82		34,708.97	
General Printing & Reproduction	114,878.88		133,054.99		73,252.62	
Telephone, Telegraph, Postage & Freight	35,282.86		37,305.01		21,716.42	
Travel	95,440.93		93,701.83		39,099.18	
Other Contractual Services	53,403.79		57,770.47		40,015.54	
Motor Fuel & Lubricants	147,099.43		175,959.59		71,211.39	
Materials & Supplies	26,479.68		35,469.97		20,830.60	
Insurance & Surety Bonds	42,920.37		53,659.99		37,418.60	
Educational & Scientific Mat. & Supplies	38,901.33		41,385.83		35,527.84	
Maintenance Materials & Supplies	51,685.78		50,806.39		22,585.54	
Motor Vehicles	148,231.80		83,952.35		77,414.52	
Motors, Boats & Trailers	27,483.88		20,012.28		6,380.36	
Buildings, Educational Eq. & Other Capital Outlay	45,453.06		54,703.19		20,879.51	
Transfer to Federal Government	21,939.75		25,808.62		27,120.60	
Other Expenses	46,054.67		61,604.16		23,528.51	
Total Disbursements Schedule "B"		2,077,657.93		2,261,764.21		1,194,975.97
Adjustment Account		215.39		23.25		
County Judges Account		11.50		18.85		
Cancelled Warrants C & R Account		68.92				
Total Disbursements		2,077,953.74		2,261,806.31		1,194,975.97
Ending Cash Balance		159,091.75		195,658.24		253,450.41
Less Special Building Fund		49,000.00		49,000.00		
Cash Balance Carried Forward		\$ 110,091.75		\$ 146,658.24		\$ 253,450.41

SCHEDULE "A"

	1956-1957		1957-1958		July 1, to December 31, 1958	
	Item Total	Source Total	Item Total	Source Total	Item Total	Source Total
SALE OF SPORTING LICENSE:						
Fishing	\$ 827,479.00		\$ 838,041.25		\$ 489,374.75	
Hunting	643,451.00		708,983.50		546,170.50	
Trapping	1,446.00		1,013.00		143.00	
U. S. Permits	600.00		500.00		500.00	
State Hunting Permits	112,945.00		140,550.00		58,560.00	
Camp Blanding Permits	2,365.00					
Charlotte County Permits			2,780.00			
Archery Permits	1,160.00		1,500.00		4,740.00	
Goose Permits	3,132.00		3,174.00		2,646.00	
Alien Hunting License	50.00		150.00			
Prev. Years U. S. Permits					100.00	
Prev. Years State Hunting Permits					90.00	
Total Sporting License		1,592,628.00		1,696,691.75		1,102,324.25

(Continued on next page)

SCHEDULE "A" — (Continued)

	1956-1957		1957-1958		July 1, to December 31, 1958	
	Item Total	Source Total	Item Total	Source Total	Item Total	Source Total
SALE OF COMMERCIAL LICENSE:						
Retail Fish Dealer	13,065.00		14,720.00		11,380.00	
Non-Res. Retail Fish Dealer	100.00		300.00		200.00	
Commercial Boats	1,842.10		2,144.90		1,655.40	
Non-Res. Commercial Boat	20.10		30.00		30.00	
Wholesale Fish Dealer	2,400.00		2,500.00		2,900.00	
Non-Res. Wholesale Fish Dealer	1,500.00		2,000.00		2,000.00	
Boat for Hire	12,759.50		13,344.00		11,841.50	
Guide	440.00		380.00		410.00	
Game Farm	930.00		990.00		975.00	
Wholesale Fur Dealer & Agents	905.00		490.00		375.00	
Local Fur Dealer	90.00		40.00		60.00	
License to Exhibit Poisonous or Venomous Reptiles	110.00		85.00		55.00	
Total Commercial License		\$ 34,161.70		\$ 37,023.90		\$ 31,881.90
OTHER SOURCES:						
Court Costs	\$ 26,675.32		\$ 29,707.95		\$ 15,979.55	
Miscellaneous Receipts	2,566.16		2,659.53		1,738.87	
Prev. Years' License Collected	46,920.00		33,893.75		19,203.50	
Pittman-Robertson	220,407.87		312,652.47		35,024.10	
Dingell-Johnson	72,441.18		95,988.42		17,183.01	
Sale of Magazine Subscription	23,292.65		23,867.17		15,567.52	
Sale of Magazine Advertising	5.00					
Sale of Magazine Single Copies	992.74		932.93		387.46	
Sale of Old Equipment	32,562.95		23,542.12		18,501.88	
Sale of Confiscated Materials & Equipment	1,047.05		816.54		50.00	
Sale of Rough Fish	1,692.02					
Sale of Timber	225.59					
Charlotte County Lease	3,609.00		550.00		1,200.00	
Charlotte County Grazing Lease	8,689.98		6,220.50		6,732.57	
Charlotte County Stump Lease	6,206.22		6,270.22			
Charlotte County Marl Lease					1,960.04	
Palm Beach County Land Lease & Easement	9,509.40		10,000.00		10,000.00	
Palm Beach County Oil Lease	4,963.56		2,440.00			
C. & S. Flood Control			15,000.00		3,750.00	
Miscellaneous Leases	259.00				1.00	
Total Other Sources		462,065.69		564,541.60		147,279.50
Total Receipts		\$2,088,855.39		\$2,298,257.25		\$1,281,485.65

SCHEDULE "B"

	1956-1957		1957-1958		July 1, to December 31, 1958	
	Item Total	Grand Total	Item Total	Grand Total	Item Total	Grand Total
DISBURSEMENTS:						
Salaries	\$1,121,582.27		\$1,257,194.72		\$ 643,285.77	
Professional Fees & Consultant Services	1,820.68		4,894.50		155.50	
Advertising Florida's Resources	3,290.70		1,677.26		1,108.08	
Telephone & Telegraph	19,941.19		21,569.53		11,373.81	
Postage, Freight & Express	15,341.67		15,735.48		10,342.61	
General Printing & Reproduction Service	114,878.88		133,054.99		73,252.62	
Repairs & Maintenance	60,819.45		79,374.82		34,708.97	
Travel Employees	91,852.60		89,892.79		38,284.52	
Travel Other Than Employees	3,588.33		3,809.04		814.66	
Utilities	4,009.86		6,460.11		2,515.06	
Other Contractual Services	53,403.79		57,770.47		40,015.54	
Bedding, Clothing & Other Textile Products	9.30					
Building Construction Materials & Supplies	840.77		61.11			
Coal Fuel & Other Heating Supplies	755.58		1,155.67		223.37	
Educational, Medical, Scientific Materials & Supplies	38,901.33		41,385.83		35,527.84	
Food Products	700.44		793.61		205.43	
Maintenance Materials & Supplies (Janitorial, etc.)	51,685.78		50,806.39		22,585.54	
Motor Fuel & Lubricants	147,099.43		175,959.59		71,211.39	
Office Materials & Supplies	10,447.71		10,985.70		6,999.59	

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SCHEDULE "B" — (Continued)

	1956-1957		1957-1958		July 1, to December 31, 1958	
	Item Total	Grand Total	Item Total	Grand Total	Item Total	Grand Total
Other Materials & Supplies	26,479.68		35,469.97		20,830.60	
Insurance & Surety Bonds, Auto Liability	42,920.37		53,659.99		37,418.60	
Pensions & Benefits	550.00		975.00		250.00	
Rental of Buildings & Equipment	20,621.09		32,722.49		7,861.49	
Other Current Charges & Obligations	3,028.67		1,878.71		1,709.99	
Books	9.50		627.34		97.26	
Buildings & Fixed Equipment	2,001.88		5,582.53		9,777.74	
Educational, Med. Scientific, & Agric. Equipment	6,130.08		13,018.87		1,931.75	
Motor Vehicles	148,231.80		83,952.35		77,414.52	
Motors, Boats & Trailers	27,483.88		20,012.28		6,380.36	
Office Furniture & Equipment	6,596.64		3,541.88		6,121.31	
Other Structures & Improvements	11,633.66		2,814.14			
Other Capital Outlay	19,081.30		29,118.43		2,951.45	
Distribution & Transfers	21,939.75		25,808.62		27,120.60	
Revolving Fund	(-20.13)				2,500.00	
Grand Total		\$2,077,657.93		\$2,261,764.21		\$1,194,975.97

SCHEDULE "B"—Disbursements by Departments:	1956-1957		1957-1958		July 1, to December 31, 1958	
	Budget Total	Dept. Total	Budget Total	Dept. Total	Budget Total	Dept. Total
ADMINISTRATION						
Salaries	\$ 37,197.48		\$ 41,072.99		\$ 20,398.18	
General Expense	79,701.18		92,233.96		56,923.49	
Capital Outlay	2,943.07	\$ 119,841.73	4,509.14	\$ 137,816.09	2,641.83	\$ 79,963.50
FISCAL BRANCH						
Salaries	30,335.50		34,169.62		17,405.50	
General Expense	1,318.53		2,394.31		1,477.19	
Capital Outlay	2,231.44	33,885.47		36,563.93	355.16	19,237.85
COMMUNICATIONS						
Salaries	38,248.60		43,939.00		22,265.65	
General Expense	21,588.55		18,495.38		13,884.20	
Capital Outlay	11,274.56	71,111.71	11,402.46	73,836.84	16.15	36,166.00
INFORMATION AND EDUCATION						
Salaries	38,993.11		42,072.45		25,012.00	
General Expense	45,653.25		45,925.88		22,023.06	
Capital Outlay	10,734.01	95,380.37	6,668.25	94,666.58	5,902.71	52,937.77
YOUTH PROGRAM						
Salaries	6,556.00		6,841.00		3,780.00	
General Expense	3,646.53		4,606.94		1,414.56	
Capital Outlay	1,852.20	12,054.73	301.11	11,749.05	32.75	5,227.31
MAGAZINE						
Salaries	17,938.98		18,900.00		7,922.00	
General Expense	69,964.43		81,987.47		38,141.82	
Capital Outlay	41.20	87,944.61	1,865.76	102,753.23		46,063.82
PITTMAN-ROBERTSON						
Salaries	153,045.33		183,802.53		85,530.96	
General Expense	120,996.00		146,480.34		75,661.34	
Capital Outlay	54,247.19	328,288.52	38,151.26	368,434.13	26,466.71	187,659.01
GENERAL GAME MANAGEMENT						
Salaries	1,401.61		2,430.38		1,570.00	
General Expense	7,679.11		8,991.08		4,817.52	
Capital Outlay	2,510.48	11,591.20	5,376.67	16,798.13		6,387.52
STATE HUNTS						
Salaries	50,232.80		65,617.14		55,165.67	
General Expense	12,488.00		29,047.51		7,856.87	
Capital Outlay	1,515.29	64,236.09	4,761.25	99,425.90		63,022.54
NATIONAL FOREST HUNTS						
Salaries	11,192.45		15,533.80		15,947.95	
General Expense	32,386.92		27,350.07		28,060.84	
Capital Outlay	186.25	43,765.62		42,883.87		44,008.79
DINGELL-JOHNSON						
Salaries	56,736.49		60,316.38		31,209.36	
General Expense	39,093.25		42,293.84		13,758.72	
Capital Outlay	8,466.28	104,296.02	17,174.11	119,784.33	4,138.13	49,106.21
FISH MANAGEMENT ADMINISTRATION						
Salaries	7,715.41		6,780.53		3,224.25	
General Expense	5,556.57		3,022.02		29,401.42	
Capital Outlay	9.50	13,281.48	524.96	10,327.51	1,779.09	34,404.76
HYACINTH CONTROL						
Salaries	23,494.86		33,061.00		12,073.16	
General Expense	20,893.62		29,367.94		8,802.19	
Capital Outlay	10,631.00	55,019.48	326.45	62,755.39		20,875.35

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SCHEDULE "B" — (Continued)

	1956-1957		1957-1958		July 1, to December 31, 1956	
	Budget Total	Dept. Total	Budget Total	Dept. Total	Budget Total	Dept. Total
WINTER HAVEN HATCHERY						
Salaries	8,432.40		10,360.00		3,750.00	
General Expense	2,772.15		4,522.34		1,961.14	
Capital Outlay	2,394.94	13,599.49	113.68	14,996.02		5,711.14
WEWAHITCHKA AND HOLT HATCHERY						
Salaries	6,555.00		4,140.00		2,070.00	
General Expense	2,696.03		3,075.65		1,899.70	
Capital Outlay	545.00	9,796.03		7,215.65	2,132.69	6,102.39
AVIATION						
Salaries	24,868.50		33,223.87		18,158.00	
General Expense	25,594.81		26,546.48		13,634.21	
Capital Outlay	409.35	50,872.66	12,067.00	71,837.35	280.00	32,072.21
SOUTH FLORIDA REGION						
Salaries	121,609.36		127,508.38		60,901.50	
General Expense	43,739.08		52,934.00		23,621.05	
Capital Outlay	15,225.16	180,573.60	9,967.15	190,409.53	11,248.88	95,771.43
NORTHEAST FLORIDA REGION						
Salaries	136,176.68		148,431.60		72,141.81	
General Expense	48,643.11		57,238.01		27,675.66	
Capital Outlay	27,164.91	211,984.70	7,855.56	213,525.17	9,401.63	109,219.10
NORTHWEST FLORIDA REGION						
Salaries	133,872.21		143,237.20		67,956.18	
General Expense	39,500.06		45,741.61		19,839.75	
Capital Outlay	16,973.62	190,345.89	11,813.66	200,792.47	15,231.31	103,027.23
EVERGLADES REGION						
Salaries	90,516.17		100,195.41		50,897.50	
General Expense	62,293.42		68,953.79		30,120.13	
Capital Outlay	25,448.44	178,258.03	10,840.98	179,990.18	14,651.30	95,668.93
CENTRAL FLORIDA REGION						
Salaries	126,463.33		135,561.44		65,906.10	
General Expense	48,702.32		54,693.05		26,041.06	
Capital Outlay	26,364.85	201,530.50	14,948.37	205,202.86	10,395.95	102,343.11
Grand Total		\$2,077,657.93		\$2,261,764.21		\$1,194,975.97
TOTAL EXPENDITURES BY BUDGET						
Salaries	\$1,121,582.27		\$1,257,194.72		\$ 643,285.77	
General Expense	\$ 734,906.92		\$ 845,901.67		\$ 447,015.81	
Capital Outlay	\$ 221,168.74	\$2,077,657.93	\$ 158,667.82	\$2,261,764.21	\$ 104,674.39	\$1,194,975.97

GENERAL FIXED ASSETS

1956-57	
General Fixed Assets (Cost Valuation) as of June 30, 1957	
Land and Buildings	\$ 490,667.83
Aircraft Equipment	35,999.49
Automotive Equipment	382,660.61
Marine Equipment	113,071.31
Motors	\$33,429.86
Boats	48,783.96
Trailers	30,857.49
Office Furniture and Equipment	48,432.95
Photographic Equipment	13,023.53
Radio	154,825.32
Field Equipment	75,863.13
Livestock	270.00
	\$1,314,814.17
Increase in General Fixed Assets in Fiscal Year	
1956-57 over 1955-56	\$ 45,502.43

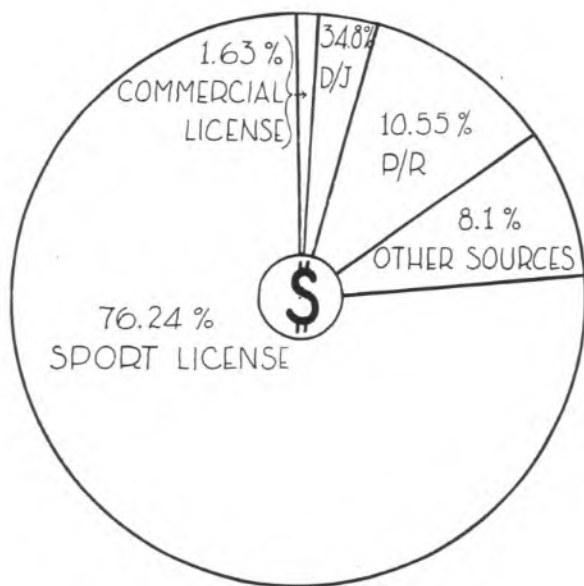
GENERAL FIXED ASSETS

1957-58	
General Fixed Assets (Cost Valuation) as of June 30, 1958	
Land and Buildings	\$ 502,525.87
Aircraft Equipment	44,498.82
Automotive Equipment	401,427.90
Marine Equipment	119,587.49
Motors	\$36,354.99
Boats	47,762.91
Trailers	35,469.59
Office Furniture and Equipment	51,427.98
Photographic Equipment	14,821.24
Radio	164,666.12
Field Equipment	93,699.19
Livestock	270.00
	\$1,392,924.61
Increase in General Fixed Assets in Fiscal Year	
1957-58 over 1956-57	\$ 78,110.14

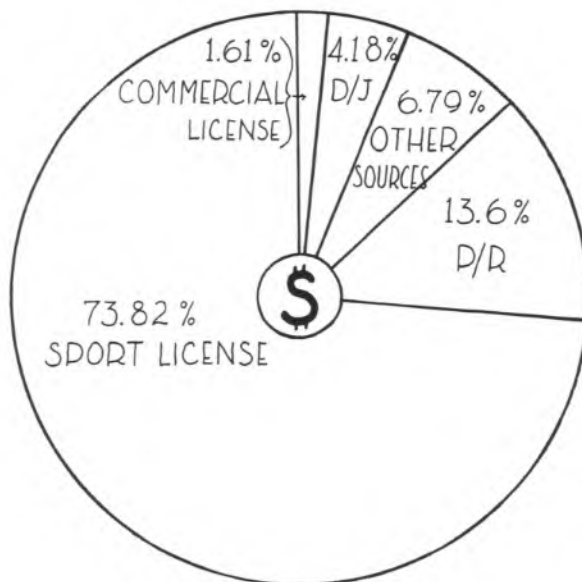
TOTAL ARRESTS AND DISPOSITIONS STATEWIDE FOR GAME AND FISH LAW VIOLATIONS

Total number arrests made July 1, 1956-June 30, 1957:	2,451	
Cases Pending	31	
Cases Disposed of		2,420
Total number arrests made July 1, 1957-June 30, 1958:	3,169	
Cases Pending	129	
Cases Disposed of		3,040
Total number arrests made July 1, 1958-December 31, 1958:	1,492	
Cases Pending	261	
Cases Disposed of		1,231
Total number arrests July 1, 1956-December 31, 1958:	7,112	
Total number cases pending July 1, 1956-December 31, 1958:	421	
Total number cases disposed of July 1, 1956-December 31, 1958:		6,691

TOTAL RECEIPTS



1956-57



1957-58

	1956-57		1957-58		July 1-Dec. 31, 1958	
	Receipts	Percentage	Receipts	Percentage	Receipts	Percentage
Sport License	\$1,592,628.00	76.24%	\$1,696,691.75	73.82%	\$1,102,324.25	86.02%
Commercial License	34,161.70	1.63%	37,023.90	1.61%	31,881.90	2.49%
Pittman-Robertson	220,407.87	10.55%	312,652.47	13.60%	35,024.10	2.73%
Dingell-Johnson	72,441.18	3.48%	95,988.42	4.18%	17,183.01	1.34%
Other Sources	169,216.64	8.10%	155,900.71	6.79%	95,072.39	7.42%
Total	\$2,088,855.39	100.00%	\$2,298,257.25	100.00%	\$1,281,485.65	100.00%

RECEIPTS BY CATEGORIES

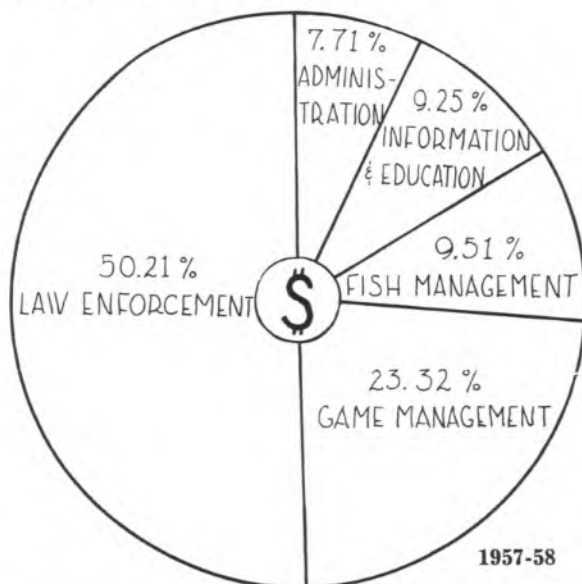
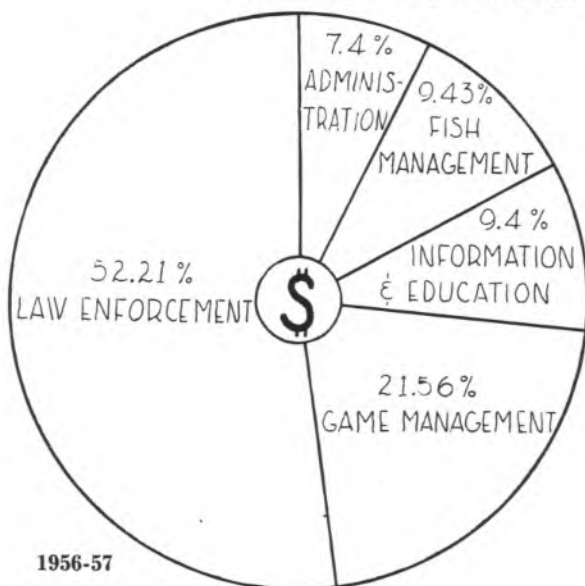


	1956-57	Percent	1957-58	Percent	July 1-Dec. 31, 1958	
*Fishing	\$ 859,165.70	41.13%	\$ 873,080.15	37.99%	\$ 519,381.65	40.53%
**Hunting	767,624.00	36.75%	860,635.50	37.45%	614,824.50	47.98%
Federal Aid	292,849.05	14.02%	408,640.89	17.78%	52,207.11	4.07%
Other Sources	169,216.64	8.10%	155,900.71	6.78%	95,072.39	7.42%
Total	\$2,088,855.39	100.00%	\$2,298,257.25	100.00%	\$1,281,485.65	100.00%

*Includes all Sport and Commercial Fishing License.

**Includes all Sport Hunting License, Permits and all license pertaining to Game Animals.

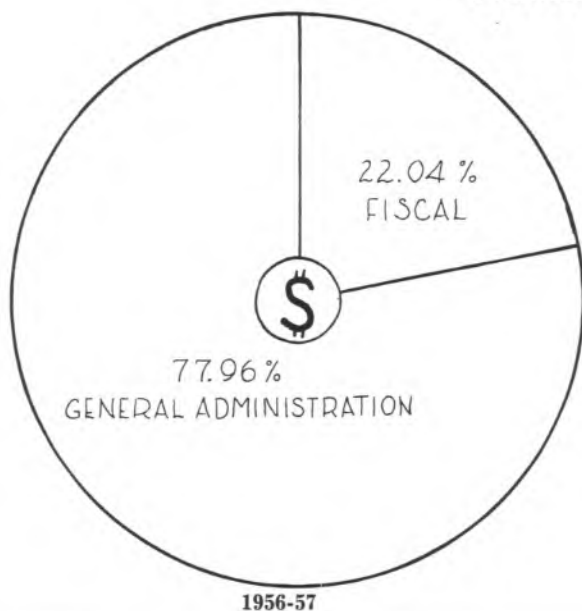
TOTAL DISBURSEMENTS: BY ACTIVITY



	1956-57	Percent	1957-58	Percent	July 1, 1958 thru Dec. 31, 1958	
Administration	\$ 153,727.20	7.40%	\$ 174,380.02	7.71%	\$ 99,201.35	8.30%
Information & Education	195,379.71	9.40%	209,168.86	9.25%	104,228.90	8.72%
Fish Management	195,992.50	9.43%	215,078.90	9.51%	116,199.85	9.72%
Game Management	447,881.43	21.56%	527,542.03	23.32%	301,077.86	25.20%
Law Enforcement	1,084,677.09	52.21%	1,135,594.40	50.21%	574,268.01	48.06%
Total	\$2,077,657.93	100.00%	\$2,261,764.21	100.00%	\$1,194,975.97	100.00%

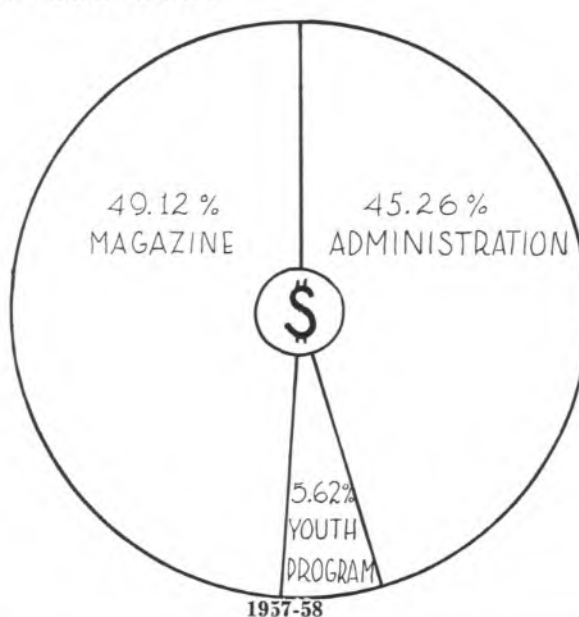
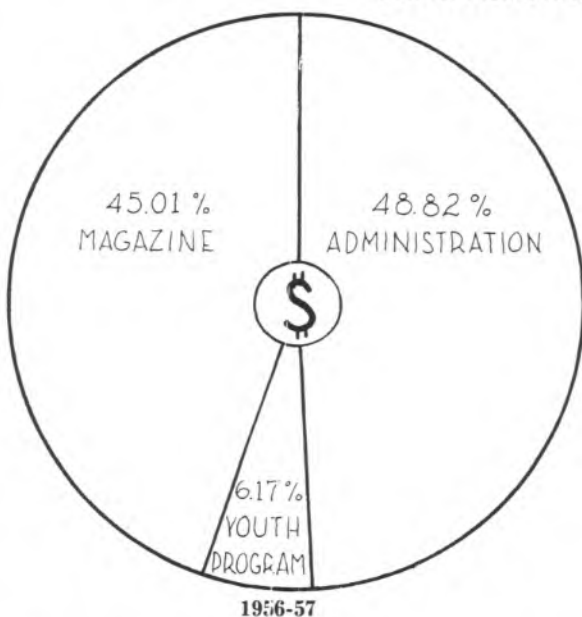
EXPENDITURES BY DEPARTMENTS

Administration



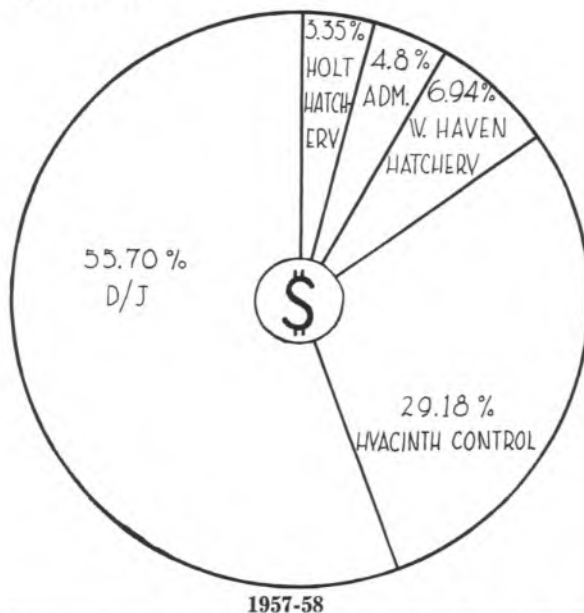
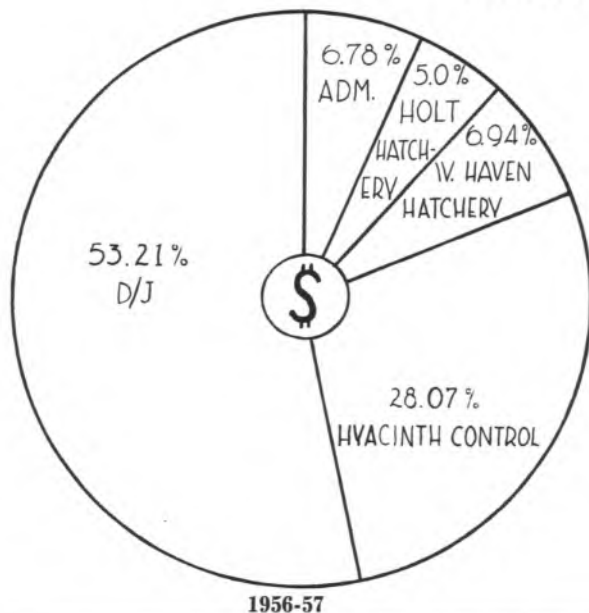
	1956-57	Percent	1957-58	Percent	July 1, 1958 thru Dec. 31, 1958	Percent
General Administration	\$ 119,841.73	77.96%	\$ 137,816.09	79.03%	\$ 79,963.50	80.61%
Fiscal	33,885.47	22.04%	36,563.93	20.97%	19,237.85	19.39%
Total	\$ 153,727.20	100.00%	\$ 174,380.02	100.00%	\$ 99,201.35	100.00%

Information & Education



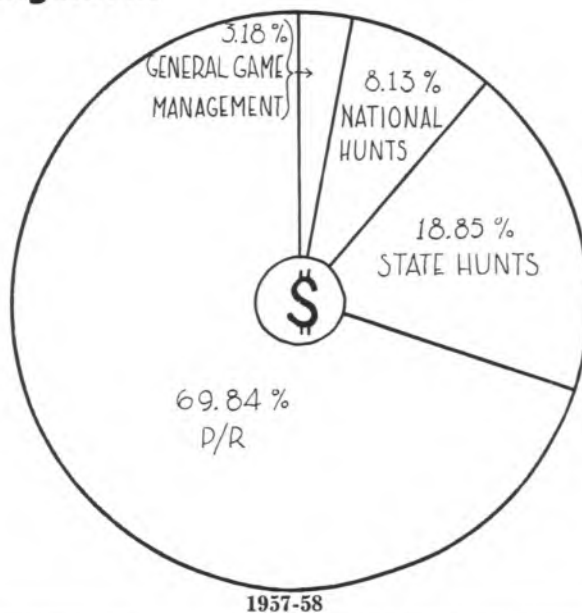
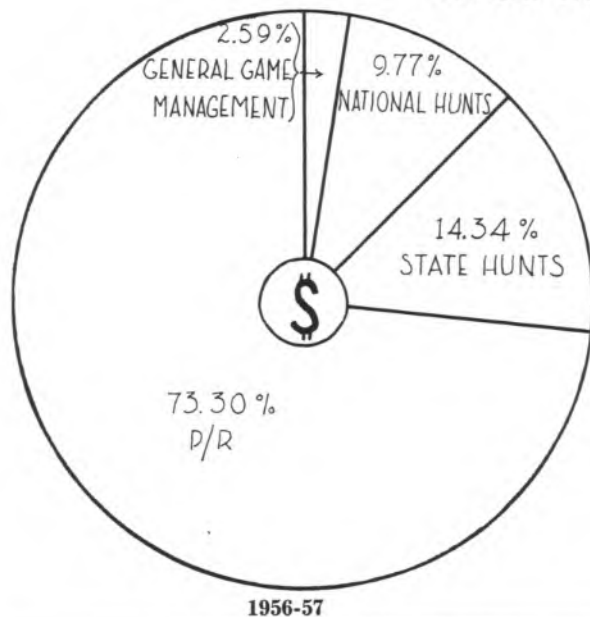
	1956-57	Percent	1957-58	Percent	July 1, 1958 thru Dec. 31, 1958	Percent
Administration	\$ 95,380.37	48.82%	\$ 94,666.58	45.26%	\$ 52,937.77	50.79%
Magazine Publication	87,944.61	45.01%	102,753.23	49.12%	46,063.82	44.19%
Youth Program	12,054.73	6.17%	11,749.05	5.62%	5,227.31	5.02%
Total	\$ 195,379.71	100.00%	\$ 209,168.86	100.00%	\$ 104,228.90	100.00%

Fish Management



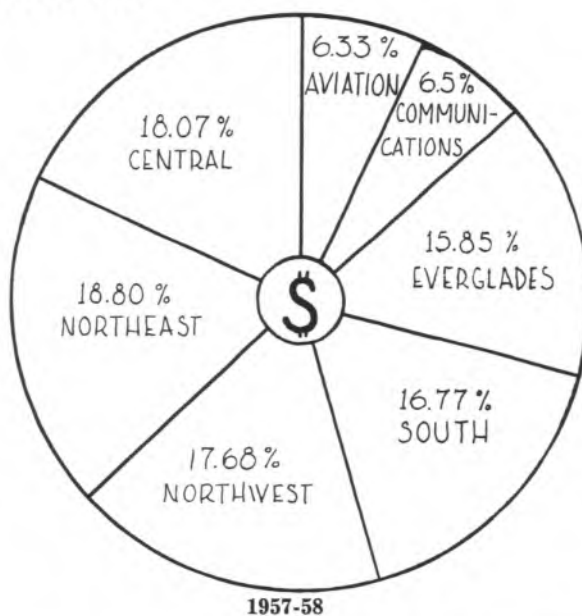
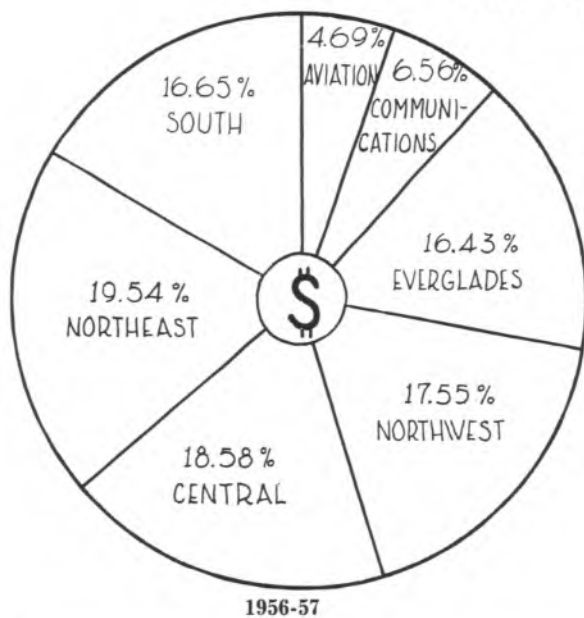
	1956-57	Percent	1957-58	Percent	July 1, 1958 thru Dec. 31, 1958 1958-59	Percent
Administration	\$ 13,281.48	6.78%	\$ 10,327.51	4.80%	\$ 34,404.76	29.61%
Dingell-Johnson	104,296.02	53.21%	119,784.33	55.70%	49,106.21	42.26%
Hyacinth Control	55,019.48	28.07%	62,755.39	29.18%	20,875.35	17.97%
Winter Haven Hatchery	13,599.49	6.94%	14,996.02	6.97%	5,711.14	4.91%
Holt Hatchery	9,796.03	5.00%	7,215.65	3.35%	6,102.39	5.25%
Total	\$ 195,992.50	100.00%	\$ 215,078.90	100.00%	\$ 116,199.85	100.00%

Game Management



	1956-57	Percent	1957-58	Percent	July 1, 1958 thru Dec. 31, 1958 1958-59	Percent
Pittman-Robertson	\$ 328,288.52	73.30%	\$ 368,434.13	69.84%	\$ 187,659.01	62.33%
General Game Management ..	11,591.20	2.59%	16,798.13	3.18%	6,387.52	2.12%
State Hunts	64,236.09	14.34%	99,425.90	18.85%	63,022.54	20.93%
National Forest Hunts	43,765.62	9.77%	42,883.87	8.13%	44,008.79	14.62%
Total	\$ 447,881.43	100.00%	\$ 527,542.03	100.00%	\$ 301,077.86	100.00%

Law Enforcement



	1956-57	Percent	1957-58	Percent	July 1, 1958 thru Dec. 31, 1958 1958-59	Percent
South Region (14 counties) . . . \$	180,573.60	16.65%	\$ 190,409.53	16.77%	\$ 95,771.43	16.68%
Northeast Region (16 counties)	211,984.70	19.54%	213,525.17	18.80%	109,219.10	19.02%
Northwest Region (16 counties)	190,345.89	17.55%	200,792.47	17.68%	103,027.23	17.94%
Everglades Region (9 counties)	178,258.03	16.43%	179,990.18	15.85%	95,668.93	16.66%
Central Region (12 counties) .	201,530.50	18.58%	205,202.86	18.07%	102,343.11	17.82%
Aviation						
(statewide—67 counties) . . .	50,872.66	4.69%	71,837.35	6.33%	32,072.21	5.58%
Communications						
(statewide—67 counties) . . .	71,111.71	6.56%	73,836.84	6.50%	36,166.00	6.30%
Total	\$1,084,677.09	100.00%	\$1,135,594.40	100.00%	\$ 574,268.01	100.00%

Information and Education

ROBERT A. DAHNE—Chief

THE DUTY of the Information and Education Division is to inform and educate the people of Florida as to the desirability of proper conservation in all its aspects, and as to the programs and policies of the Game and Fresh Water Fish Commission.

To accomplish this duty, the Division uses many programs, methods and ways of informing and educating the interested public.

In order to gain insight into the work of the Division, a careful analysis was made of the work performed during a typical month—September. In studying the work performance record, it should be remembered that the nature of the work varies considerably from month to month and from season to season.

The analysis showed that in carrying out their duties, the employees of the Information and Education Division accomplishes the following work during the typical month:

The Division, in a typical month, makes 42 individual press and photographic releases in a total of 2,571 copies. It also presents 46 public lectures about the Commission before a total audience of 2,717 people, and attends an additional 43 meetings without making a formal talk or show.

During the same typical month, the Division shows Commission exhibits to a conservatively estimated 8,815 viewers. It also distributes 131,038 pieces of printed literature about fish and wildlife, and shows or loans a total of 103 wildlife films and 54 color slides, and appears in

person in an average of four to eight live radio and television programs. Each month, the Division also writes an average of 986 letters and memorandums, the majority in answer to queries for information from the public.

During the entire year, the Division also produces an average of seven short television films about the Commission and wildlife, and distributes a copy of each film to each of the 18 television stations in the state. During the year, the Division also produces at least one feature-length color film, and 132 new color slides devoted to wildlife and Commission programs. In addition,

the Division also takes and develops 4,484 photographic negatives, and makes 1,706 enlarged prints of same for magazine and newspaper reproduction. Also produced during the year are 75 pieces of magazine and display wildlife artwork.

Since the analysis above was made during a fall month—September—no mention is made of the Commission's Youth Conservation Camp which operates during the summer months, or the many other seasonal and special programs and operations of the Division.

DIVISION OPERATIONS

Operational procedures and policies of the Information and Education Division are outlined as follows:

By its nature, the Information and Education program carried on by the Florida Game and Fresh Water Fish Commission is both intricate and widely diversified.

In all, the Information and Education Division is responsible for carrying on a total of 15 major inter-related programs that fall roughly into the five general classifications of Information, Education, Publicity, Public Relations and Internal Employee Training.



Successful information work calls for careful advance plotting, detailed preparation and dramatic presentation. Officer uses a string of pearls, shotgun loaded with cap-blanks, pencil and paper-pad, and a few photographs to dramatize basic principles of conservation.



The 15 major programs that are carried on simultaneously are: Publications, Films and Film Libraries, News Releases, Fair Exhibits, Radio, Television, Newspapers, Photography, Public School Resource-Use Education, Lectures, Information Requests, Special Promotions, Organizations and Conventions, Junior Conservation Clubs and League, and Liaison work.

Each of these 15 major programs contains, of course, many minor and varied programs and projects.

In general, the Information and Education work is carried on two main levels: Out-of-State Information and Education, and Intra-State Information and Education. Of the two, the Intra-State work has al-

ways been considered the more important phase of the Commission's I&E work.

The Out-of-State I&E program is carried on primarily through the office in Tallahassee. In its essence, the theme of any programs designed for out-of-state dissemination is to publicize the great potentialities of fishing and hunting in Florida. Much of this work is involuntary in that it is done at specific request from persons, concerns and states outside of Florida.

The Out-of-State work continues to be necessary and desirable just so long as the national interest in Florida's fishing and hunting continues to grow so rapidly as the result of invaluable publicity received in countless national magazines, newspapers, books, television programs and motion pictures. The out-of-state work undoubtedly results in the arrival of many hundreds of out-of-state visitors—fishermen and hunters—and many prospective permanent residents.

The Intra-State work of the Information and Education Division is considered to be of most vital interest to the Florida Game and Fresh Water Fish Commission. This is because the primary duty and responsibility of the Game Commission is to the Florida citizens who purchase licenses to fish and hunt within the state.

The I&E Division is primarily charged with the responsibility of informing and educating the general public as to the policies, the work programs, the game and fish laws and the management practices which are being set into motion by the Commission.

The I&E Division is not, and has never been considered to be, a propaganda machine. Nor is it the "brain" of the Commission. It serves, instead, as the "tongue" of the Commission, giving voice, in all possible ways, to the official policies and practices of the Commission. In order to do its job, the I&E Division is concerned only with the true facts con-

cerning Florida wildlife and its proper conservation.

The quickest way to destroy the efficiency and power of the I&E Division would be through any attempt at distortion or partial concealment of the truth. The Division must always deal in whole and exact truths, or its efficacy will be totally lost. Nor is it the duty or the intent of the Information and Education Division to in any way infringe upon or compete with established private staff or free-lance writers, editors and programists for newspapers, magazines, books and radio and television stations. Instead, it is the duty of the I&E Division to cooperate with and assist in every possible way all such writers and editors so as to help them present complete facts about fish and wildlife.

In order to effect an efficient 15-point program on a state-wide basis, the Staff Officer known as the Chief of Information and Education has the assistance, cooperation and advice of five Regional Information Officers. These Officers, located in each Region headquarters office of the Commission, are completely responsible for the proper conduct of complete information and education programs in the areas encompassed by the respective Regions.

Under the Regional administrative set-up, all state-wide informational or educational programs are organized and set into motion by the Tallahassee office. The programs are then carried out on a Regional, or local, basis by the Regional Officers.

Thus, when an official policy or operation is adopted by the Commission or its Director, the informational and educational aspects are organized and coordinated by the Tallahassee office through the Regional offices.

The Chief of I&E also has complete responsibility for all actions and programs carried on by the Supervisor of Youth Education, the Chief of Audio-Visual, and the Supervisor of Adult Liaison.

PUBLICATIONS

The I&E Division has the duty of preparing, processing, editing and publishing the majority of pamphlets, booklets and brochures which



Photography of captive wild animals acting naturally in simulated wild surroundings is important technique of information and education.

the Commission distributes as an aid to properly informing and educating interested persons as to wildlife and the conservation thereof. The major portion of these are distributed through the I&E Division channels.

FILMS AND FILM LIBRARIES

The Division maintains six film libraries throughout the state at its Central and Regional Offices. These films—mainly 16mm. color-sound—are available to interested groups for educational and instructional purposes. Both Commission-produced films, and films produced by outside interests, are utilized in the loan libraries.

AUDIO-VISUAL

The Audio-Visual Section is maintained to handle still and motion photography of native Florida fish and wildlife, and related audio-visual techniques. The Section produces motion films, still photographs, color slide lectures, magazine artwork, and related work activities. Primarily, the Section's production is aimed at public release through television stations, magazines and newspapers, and loan libraries.

The Audio-Visual Section also makes picture-news releases to many of the daily and weekly newspapers, both in Florida and out-of-state.

Detailed reports as to Audio-Visual activities and wildlife photographic techniques are available upon request by interested persons.

NEWS RELEASES

Statewide news releases are processed and distributed by the Tallahassee office. Region-wide news releases are processed and distributed by the Regional Information Office. News releases are one of the most important programs carried on by the I&E Division, for it is only through this medium that most newspapers, radio stations, television stations, editors, outdoor writers and interested sportsmen obtain author-

The Wonders of Wildlife. Wilderness day camps for school classes will be extremely popular in Florida during the next few years. Conservation in the schools.



Teamwork by Information Officers results in efficient and economical operation. Live animal is photographed in motion, still and color slide—giving most extensive coverage without repeating project. Wild animal is always kept under complete, safe control.

itative information concerning current Commission policies, programs, activities, and rules and regulations. News releases are not distributed on any set, regulated basis—to do so would result in the artificial, or "canned" type of release. Instead, news releases are prepared only when the Commission is involved in a newsworthy occurrence, or when a point of public information needs clarification, such as hunting rules and regulations. During the average twelve-month period, the Tallahassee I&E office prepares and distributes a total of 107 statewide news

releases—each release being mailed to approximately 1,200 addresses. During the same twelve-month period, the five Regional Information offices prepare and distribute a total of 100 region-wide news releases.

ADULT LIAISON

During the biennium, a State Coordinator of Senior Conservation Clubs was employed. The duties of this employee are many and varied, but are primarily devoted to liaison work between the Commission and public organizations, such as conservation and sportsmen's clubs.





This employee is also responsible for implementation of the I&E Division's state-wide firearms and hunter safety training programs for both adults and youth. In the first year of the program, 274 adults in Florida were trained and certified as hunting safety instructors, and 1,159 boys and girls certified as safe hunters.

YOUTH EDUCATION

During the biennium, a large amount of effort was expended in developing along well-established lines the Youth Education program and responsibilities. Details are to be found in the Youth Education section of this biennial report.

EXHIBITS

Many exhibits are installed at conventions, assemblies and fairs throughout the state. All such exhibits feature official Commission policies and programs as themes. The exhibits are scheduled, constructed and exhibited through the initiative and resources of the respective Regional offices.

RADIO

Radio activities were confined mainly to personal appearances by Regional Information Officers and personnel on local radio stations and tape-recorded programs.

TELEVISION

In addition to the Audio-Visual Television work, Regional Information Officers and personnel made personal appearances on numerous television programs. During a

twelve-month period, the five Regional Information Officers made a total of 100 appearances on radio and television programs.

NEWSPAPERS

Maintaining good relations with newspaper writers and editors throughout the state is always a continuing program of the I&E Division, with the efforts carried on by Regional Information Officers.

LECTURES

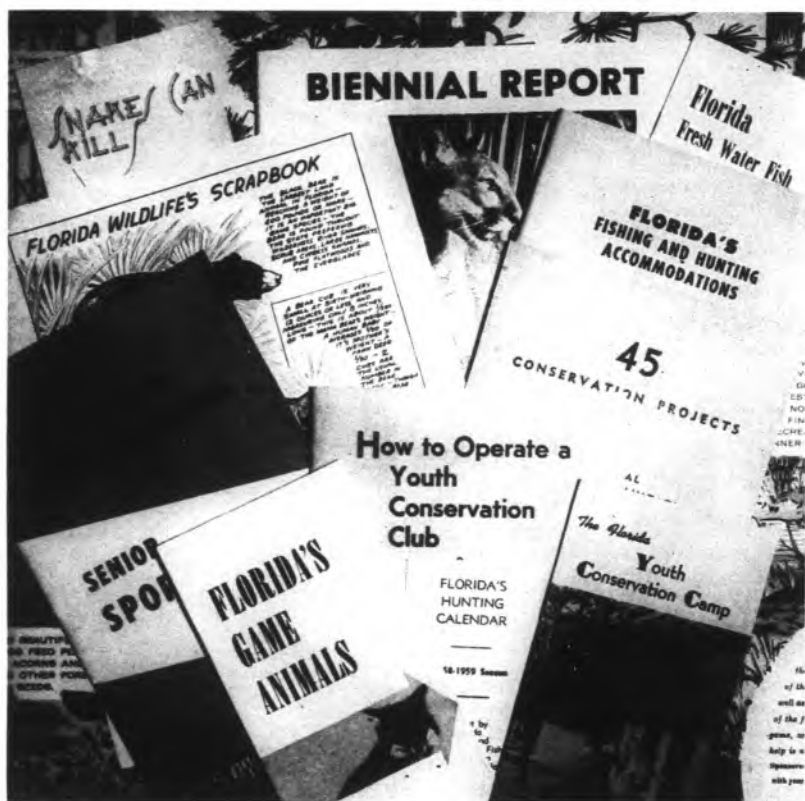
All I&E Officers, as well as other employees of the Commission, are continuously available for public appearances and addresses before numerous public gatherings and organizations throughout the state.

OTHER ACTIVITIES

Work done in handling information requests, special promotions, organizations and conventions, and public school resource-use education are covered in other sections of this Biennial Report.

SUMMARY

In general, the Information and Education section is charged with the responsibility of informing and educating the public to proper conservation methods and practices. It is vitally concerned with publicizing the activities and policies of the Florida Game and Fresh Water Fish Commission. It is always interested in maintaining good relations between the sportsmen and the Commission. It is, of course, interested in employee training and morale. It must, at all times, work in cooperation with all branches of the Commission in all fields, and it must attain continuous and complete contact with all Commission employees and programs. Essentially, the Information and Education Division is a service department—offering its service to all persons connected with the Commission, and to all sportsmen and citizens of Florida and the United States. ●



Production and distribution of literature containing official information is never-ending job of Information and Education Division. Putting the good message directly into the hands of the people.

FLORIDA WILDLIFE

BILL HANSEN
— Editor —

THE MONTHLY PUBLICATION OF FLORIDA WILDLIFE is an important medium employed by the Game and Fresh Water Fish Commission for the effective dissemination of information and educational material so important to the eventual success of present and future Commission programs.

A total of 39 major state Game and Fish Commissions now make use of periodic publications as a proven public information service. These publications range from weekly bulletins to the slick monthly magazine type format. FLORIDA WILDLIFE has recently obtained high national recognition in the latter category.

A balanced contents of factual, technical and general type articles are presented each month. Subjects covered in each issue include Commission programs, fresh water fishing, hunting, conservation and natural history in general.

FLORIDA WILDLIFE is dedicated to the conservation, preservation and propagation of Florida's fresh water fish, game and related natural resources. The purpose of this magazine is to acquaint and educate the public with the many problems connected with the immense task of conserving a natural heritage for all future generations, and to report on the progress being made by the Commission in meeting the challenge. It also seeks to develop a general understanding and cooperative public relations between state officials and technicians and the people of Florida.

The Commission now prints 21,000 copies of each monthly issue. Approximately 19,500 are mailed each month to a regular mailing list consisting of paid subscribers, Commission employees, state officials and members of other state and Federal conservation agencies. The remaining 1,500 are distributed free of charge through various fairs and exhibits, Chambers of Commerce, and through official state promotional distribution agencies.

A portion of the cost of publishing FLORIDA WILDLIFE is paid for from the paid subscriptions which now go to all 48 states and several foreign countries. The remaining cost is absorbed by the Commission as an important public information service with value received immeasurable

as to dollars and cents value.

It should be remembered that, although this portion of the over-all budget earmarked for FLORIDA WILDLIFE is expended mostly on the monthly publication, the personnel of this department spend considerable time assisting in functions directly connected with other Commission departments.

Duties assigned to the small magazine staff of three include: editorial preparation, article writing and re-writing, photography, publication layout and makeup mechanics, field work, information disbursing, book-keeping, special addressograph and mailing procedure, related clerical duties and other required Commission activities.

Under the present organization and Commission policy, FLORIDA WILDLIFE has, for the past biennium, shown a continuous increase in paid circulation and improved format quality. During the same period, through an efficient systematic organization, the general over-all publishing cost has been steadily decreasing.

Research in the magazine publishing field shows that approximately 2½ individuals read each distributed copy of this type monthly periodical. Based on the aforementioned figures, the Game and Fresh Water Fish Commission's monthly magazine, FLORIDA WILDLIFE, delivers a message of definite importance to approximately 625,000 readers annually. ●





Aerial stocking of wild-trapped turkey starts new flocks in remote areas.

AVIATION

THE PRIMARY function of the Aviation Section is to give close, coordinated air support to ground personnel to obtain maximum results in law enforcement work.

Totals taken from pilots' weekly activity reports for the two-year period show that they spent 6,940 hours in the air, including patrol (day and night), spray time, personnel transportation, photo flights, surveys and assisting other State and Federal agencies. In addition to this, they spent 5,059 hours on ground patrol and law enforcement work.

Personnel in the Aviation Section consist of the Chief of the Section, five regional pilots, two spray pilots, two aircraft and engine mechanics, one mechanic helper and one part-time secretary. All personnel, with

the exception of the secretary, are commercial pilots with many hours of experience in their type of work.

Aviation Section headquarters are located at Ocala, Florida, at the municipal airport. When the facilities were first moved to Ocala, space was provided by the city in hangars currently not in use. As time passed, the hangar space was leased to companies that needed large space for their operations. Because of this, in the summer of 1957, it was decided that the Game Commission would build its own hangar at the airport. Space for the hangar was provided by the city of Ocala. The construction of the hangar was completed by the maintenance crew which is

normally based at Ocala. The only contracted services required in the construction were the use of a mobile crane to lift completed span structures into place, and the necessary equipment to roll and prime the surface of the hangar floor. While not wholly completed, the maintenance work on airplanes was being carried on in the new hangar at the end of an eighteen-day period.

The hangar is 45 feet by 65 feet, and houses two airplanes, all maintenance equipment, has a separate stock room, toilet facilities and an office. With the building of this hangar and the addition of special types of equipment, the Aviation Section is able to complete all routine inspections, and minor and major repairs and overhauls to Commission aircraft required by the Civil Aeronautics Administration. In addition to this, they provide all

WILLIAM S. DURKEE
— Chief —

necessary maintenance for Hyacinth Control airboat engines, and outboard motor maintenance for the larger outboard motors used in the Central Florida Region, St. Johns River area.

Aircraft used by the Commission consist of four Piper PA-18's, two Cessna 170's, one Cessna 180 and one Stinson L-5. One PA-18 and the Cessna 180 are equipped with spraying apparatus for the control of hyacinths and other noxious weeds. Another PA-18 is equipped with amphibious floats for water work.

During a 24-hour period, a pilot may be requested to assist in many various tasks, day or night, such as patrol, flying over our many lakes and streams, management areas, the famed Everglades swamps and marshes and public properties for the purpose of locating illegal means of taking game or fish.

Commission pilots very frequently aid the Highway Patrol and Sheriffs' departments in looking for lost or drowned persons, missing aircraft, escaped prisoners or illegal stills. A great many hours are flown at night in an attempt to make it very difficult for the illegal hunter, who must use a light, to locate and shoot game, or to leave the area without being detected. Radio communications play an important part here, making it possible to direct ground personnel to intercept and apprehend the violator.

General survey and aerial photo work are commonplace, and in the

fall the "duck count" is begun. All duck habitat in the entire State is flown over for the purpose of classifying species and approximate numbers.

The float-equipped aircraft is based in the central part of Florida among our many fresh water lakes suitable for this type of aircraft operations.

Two of the aircraft, a PA-18 and Cessna 180 previously mentioned, have the never-ceasing problem of controlling the hyacinths and other noxious weeds which plague our many fresh-water lakes and streams. To enable a proper and effective kill, the pilot must fly directly over the plants at an altitude of between five and fifteen feet, which requires a great deal of skill and concentration.

Because of the many and varied tasks which an aircraft must perform, positive and thorough maintenance is a must for all Commission aircraft. Each plane must be carefully and thoroughly inspected after 100 hours of flight (50 hours for the two sprayers). Because the maintenance shop carries on a program of "progressive maintenance" for each aircraft, at this time minor repairs are made where needed. This may be in the form of new sparkplugs, oil changes, new tires and tubes, replacement of worn bolts, nuts or rivets, and cables. At the end of a 600 to 900 hour period of flight time, depending upon the type engine and use made of aircraft, what is known as a "major overhaul" takes place.

At this time, the engine is completely torn down and worn parts replaced whenever necessary. Needed fuselage repairs are also made at this time including, new fabric or paint. Once a year, the airplane is carefully checked and licensed by an authorized representative of the Civil Aeronautics Administration.

During the past biennium, 12,153 hours were spent on maintenance of aircraft, airboat engines and outboard motors.

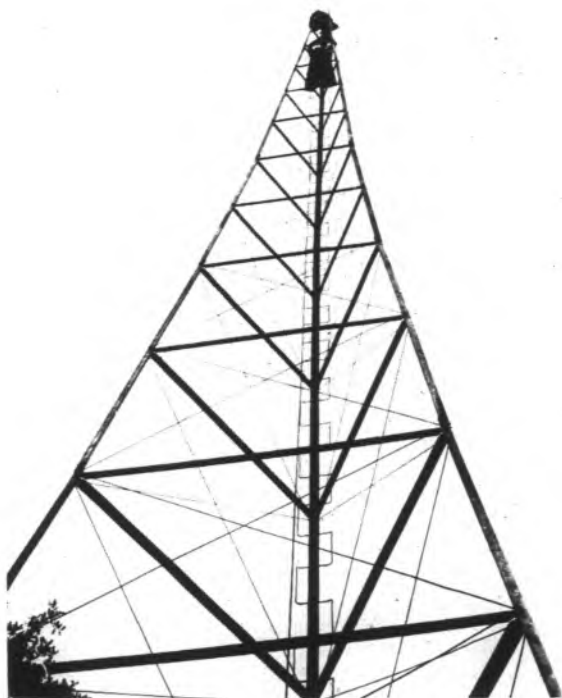
In order to become a pilot with the Game Commission, a person must have a commercial pilot's license, and a minimum of 1,000 hours of flying time, and, in addition to this, he must pass a rigid test given by the Chief of the Aviation Section. This is done to ascertain the pilot's capabilities in controlling his aircraft at altitudes and speeds not familiar to the average commercial pilot during routine flying. He must also have an understanding of aircraft mechanics, communications, weather and orientation.

In addition to the above, he must be thoroughly familiar with the duties of a Wildlife Officer. Not only must the Game and Fresh Water Fish Commission pilots be very competent in performing their duties with the aircraft but they must also be sincerely interested in conservation and wildlife so that the operation of the Aviation Division can be a complete and integrated part of the Game Commission as an organization. ●

Public service to distressed people is normal routine for wildlife officer—on the ground and in the air. Commission's air and ground patrol equipment is designed for wilderness travel.

Pilots assist licensed aircraft and engine mechanics in making routine inspections, checks and repairs. Complete aircraft and engine shop is maintained by the Commission.





Radio Communications

RHETT McMILLIAN

— Chief —

THE Communications Section was set up late in the year of 1948 to serve primarily as an aid to the Law Enforcement program. Beyond its primary purpose of serving as a tool for officers in the field, the radio system has since proved itself to be a valuable adjunct to the Commission's continuous efforts in achieving greater efficiency with a consequent saving in both time and money.

Now, the Communications Section not only serves as a law-enforcement tool, but also as an aid to greater flexibility in the overall state-wide administrative functions.

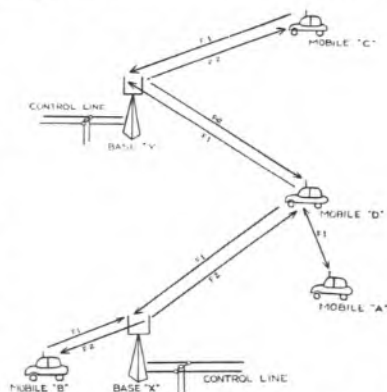
The headquarters of the Communication Section are located centrally in New Smyrna, and here are found the necessary operating tools of the far-flung radio system. Communications Headquarters keeps accurate cost records of each radio unit, operating manuals and signal cards which are prepared and furnished to Commission personnel, and a stock of emergency parts and supplies.

The communication operating equipment now in the Commission consists of 289 mobile units, including airborne sets, 27 base stations, including two stations at temporary sites. Six of the base stations are operated in cooperation with the State Forestry Services, two in cooperation with the State Park Service, and one in cooperation with the South Florida Conservation District.

Base station locations are: New Smyrna, Munson, Eglin Field,

Panama City, Bonifay, Wilma, Woodruff, Tallahassee, Perry, Cross City, Lake City, Jacksonville, San Mateo, Ocala, Williston, Leesburg, Tomoka, Magnolia, Lakeland, Myakka, Highlands, Okeechobee, Belle Glade, Immakolee, Miami, and the State Civil Defense Emergency Control Center.

Several antenna sites have been erected about the state, so ground mobile units may connect to the larger antenna and send and receive



Mobile Relay Operation now in use by Florida Game and Fresh Water Fish Commission.



for greater distances at important points.

The Commission continues to co-operate with the Federal Civil Defense, and the Communications system has taken important part in all disaster tests. The Chief of Communications is a member of the State Civil Defense Communications Committee.

The Communications Division is composed of six technicians, and has repair facilities and personnel at New Smyrna, Panama City, Lakeland, Lake City and Okeechobee. Each technician was responsible for the maintenance and operation of an average of six base and sixty-six mobile units.

In September of 1957 the Office of Defense Mobilization needs caused the Federal Communications Commission to declare the Commission's radio frequency necessary for the national defense, and ordered the Commission to vacate.

This was a serious blow to the Commission, as it caused the abandonment of its present communications facilities. Inasmuch as the vacation date was 1959, an all-out crash effort was necessary to evaluate the situation and decide upon a course of action. Within a period of one year, a completely new statewide system was engineered, matching funds obtained from Civil Defense, new frequencies and licenses obtained, bids accepted and new construction carried to completion.

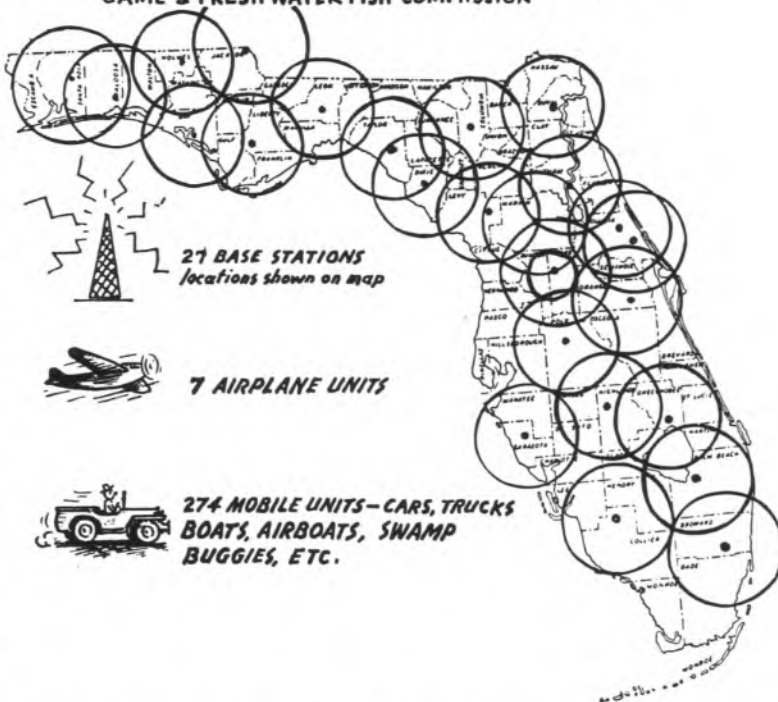
The new high-band radio system is a radical departure from conventional design, and is the first of its kind in the country. The same coverage has been achieved as in the old low band system, but with the added facility of allowing the officers in their vehicles to operate the base stations on an automatic basis after or during station-operator hours.

By means of the mobile relay method, vehicles may intercommunicate airline distances up to 70 miles, thus doubling the range and efficiency of the system.

The remainder of the period will be utilized in the adjustment and perfection of the new system, as well as adequate training of its proper usage. ●

RADIO COMMUNICATIONS

GAME & FRESH WATER FISH COMMISSION



NOTE: 30-mile radius around each base station location is normal car-to-station communications range. Station-to-station range and station-to-plane-to-car range is much greater.

STATION LOCATIONS

COUNTY	LOCATION	COUNTY	LOCATION
Santa Rosa	Munson	Marion	Ocala
Okaloosa	Eglin Field	Volusia	Tomoka
Bay	Panama City	Volusia	New Smyrna Beach
Holmes	Bonifay	Lake	Leesburg
Liberty	Wilma	Orange	Magnolia
Jackson	Woodruff	Polk	Lakeland
Leon	Tallahassee	Highlands	Sebring
Taylor	Perry	Sarasota	Myakka State Park
Dixie	Cross City	Okeechobee	Okeechobee
Columbia	Lake City	Palm Beach	Belle Glade
Duval	Jacksonville	Collier	Immokalee
Putnam	San Mateo	Broward	Hollywood
Levy	Williston		

AT LARGE-STATE CD EMERGENCY CONTROL CENTER



The Northeast Florida Region Reports

C. N. CLYMORE
Manager

THE MOST significant event that affected the Northeast Region in the past biennium was the decision of the Commissioners to build Regional office buildings in all five regions starting with a building in Lake City. This decision gave all regional personnel a sense of permanency and direction with a consequent rise in morale. Actual building was started shortly after the end of the biennium.

The 15 counties that comprise the Northeast Region are Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Gilchrist, Hamilton, Lafayette, Madison, Nassau, Levy, Suwannee, Taylor, and Union. (Map Page 71.) The region logically divides into four enforcement areas, each under the supervision of an area supervisor. Twenty-nine wildlife officers are the law enforcement arm of the region. Other regional personnel includes a regional manager, secretary, education officer, three radio station operators, pilot, fish management technician, and radio engineer. In addition, there are eight game management technicians working in the region, two more than during the previous biennium. These additions, together with an added radio engineer and a radio station operator, give the region a working force of 49 persons, which is two more than in the previous reporting period.

Due to the fact that the men had

more and better equipment with which to work, the statistics of this biennium show an increase over the previous reporting period. With the previous biennium figures given in parenthesis for comparison, the statistical total is quite impressive. A compilation shows that the men traveled 1,204,643 miles (1,141,378), put in 182,927 hours of land patrol (172,222), checked 51,212 licenses (49,801), and made 1,385 arrests (962).

The licenses-checked figure doubtless includes many duplications, but the old sportsman's complaint of never having his license checked is seldom heard nowadays. Thirty-six illegal but usable deer, six turkeys, and 4,112 pounds of fish were seized by the men, and donated to charitable institutions. During the course of 19,969 hours of water patrol, officers destroyed 65 illegal fish traps, and confiscated one seine totaling 250 yards in length. This last figure is considerably lower than that reported for the previous two years, and reflects a more vigorous approach to the problem.

All officers are radio-equipped, and, with stations now located at Jacksonville, Lake City, Perry, Cross City, and Williston, there are no areas where radio coverage cannot be achieved. It is hard to overestimate the usefulness of the radio as a law enforcement tool in this

region.

As important as law enforcement is, the long-range goal in this region is recognized as education of the public, and no effort is spared in this department. All personnel participate in this phase of our work, but the main burden, of course, falls on the Education Officer. He is almost constantly on the road, making talks to school groups, civic clubs, and sportsmen's organizations, working with youth groups, getting out favorable news releases and pictures, and generally spreading the word of good conservation. Much emphasis has been laid on this work during the past two years in this region, and a growing awareness on the part of the public of the need for following good conservation practices is plainly apparent in many of our counties. This is evidenced by the fact that sportsmen's clubs have been organized and are actively functioning in Baker, Dixie, and Taylor counties. These are good game counties, but have been somewhat of a law enforcement problem in the past. The fact that the citizens of these counties have seen fit to organize these clubs is a sure sign of conservation progress.

Requests for assistance with fish management problems have continued to increase, and the regional fish management technician works hard to see that all requests are



promptly answered. In addition to pond poisoning and noxious plant control, the technician stocked 112 ponds, lakes, and streams with 225,000 bream, and 84 bodies of water with 95,000 largemouth black bass. He inspected 246 lakes and ponds. He assisted the fish management division on several large projects, and was in turn greatly aided by the hyacinth control unit with several hyacinth control problems in the region.

The seven management areas located in the Northeast region total 698,250 acres, with all but 96,250 acres available for hunting. The steadily increasing number of permits sold testifies to hunters' satisfaction with the management area program in this region. Larger kills of all game species are reported in the areas every year, which indicates that the game biologists stationed in this region are doing an outstanding job.

Our Cessna 170B airplane continues to be a work horse. The plane was flown a total of 944.0 hours, and a breakdown of the figures shows 590.0 hours of day patrol, 42.6 hours of night patrol, and 311.4 hours of such things as personnel transportation, fire spotting, photo surveys, search for missing persons, and duck counts. This plane is well suited to the needs of law enforcement work, and the experience of the pilot has enabled him to be of great assistance

to the officers on the ground in making cases. Illegal fire hunters have been known to shut off their light and go home upon hearing a plane near them, whether it was our plane or not. They have learned that a plane in the vicinity very often means that wildlife officers in cars will soon make their appearance, and it is believed that considerable game has been saved as a result of the use of the plane.

One of the most important uses of the plane is in fire spotting. The pilot is always on the lookout for fires while on patrol, and has been the first to report several fires. The plane is available to personnel of this and other regions when haste and distance are factors in making trips, and has been especially useful in this respect on several occasions.

One of the most important factors in managing our deer population has come as a side effect of the State Livestock Sanitary Board's highly successful screw fly eradication program. While the primary purpose of the program was to aid the Florida cattleman, all field personnel have noted the increase in our fawn population this past year. We will now be able to raise a much larger proportion of the fawns dropped that we formerly lost to screw worms. The program would be well worth while if it were conducted solely for the sake of our game.

The Northeast Florida Wildlife

Officer's Club, composed of officers of the region, continues to hold its periodic meetings, and has seen the practice spread to other regions. Meetings are held quarterly, at which time the men have the opportunity to exchange ideas and experiences, and, quite often, officials from the Tallahassee office are present to explain new policies and programs, and to answer questions that arise during the course of the officer's work. It is felt that these meetings are invaluable from the standpoint of morale.

The formation and encouragement of sportsmens groups is one of the most important aspects of the work in this region. A good working conservation program is not possible without the cooperation of the public, regardless of the efforts of a State conservation agency. All personnel of the region recognize this fact, and no effort is spared to help each and every sportsmens club in the region to be a success. Several new clubs have been formed in the region in the last two years, and they, in turn, have been extremely helpful to the personnel of the region. On several occasions, members of sportsmens clubs have held violators at the scene of violation until the arrival of the wildlife officer, and have appeared as witnesses at the trial. This type of cooperation between the two groups bodes well for the success of wildlife conservation in Florida. ●



The Northwest Florida Region Reports

J. W. BICKERSTAFF
Manager

THE NORTHWEST Florida Region is composed of sixteen counties making up the Third Congressional District of Florida.

The Northwest region is an area of approximately 7,713,639 acres, bordered on the west and north by Alabama and Georgia, and on the south by the Gulf of Mexico. This region is commonly referred to as the "Big Bend" or "Pan-handle" of Florida.

Counties included in the Northwest Region are Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jefferson, Leon, Liberty, Okaloosa, Santa Rosa, Wakulla, Washington, Jackson and Walton.

From a fish and game conservation viewpoint, Northwest Florida is distinctive when compared to the rest of Florida. The majority of the fishing pressure comes from non-resident weekend fishermen, and is restricted mostly to rivers or similar waters. An estimated eighty percent of the fishermen are cane pole addicts, and the pan-fish is by far the most sought after species. Topographically, Northwest Florida is composed of hills, pine forest, small lakes, and hardwood and cypress swamps.

Of the approximately 7,713,639 acres in the Northwest region, over 865,000 or 11.2 percent, is now under a Commission supervised game man-

agement or public hunting program. There is a total of eight wildlife management areas in Northwest Florida, seven of which are open for public hunting, to give the sportsmen a total of 742,420 acres of managed hunting. These controlled hunting areas include the 67,000-acre Leon-Wakulla area and the 133,120-acre Liberty area located in the Apalachicola National Forest, the 118,300-acre Gaskin area located in Gulf, Calhoun and Bay counties, as well as a portion of the Aucilla area (25,000 acres located in Wakulla and Jefferson counties), and the 3,000-acre St. Marks area, which is the only management area in the state operated solely for waterfowl, and the newly established 6,000-acre Woodruff area. The 390,000-acre Eglin area is unique in the fact that the hunt is made possible through the cooperation of the U.S. Air Force and the Game and Fresh Water Fish Commission.

There is one special archery hunt held annually within the Northwest region. The Eglin Archery Hunt produced a total of 17 deer for the 1958 hunt, to establish a record for Florida archers. Controlled bear hunts were conducted in the Liberty area during the month of October. The Northwest region has been host to the Florida Fox Hunters Association field trials for the past six years. The Northwest region is also unique in being the only region to

conduct a spring gobbler hunt. This hunt is held in the Eglin area as a controlled hunt in 1955, and region-wide in 1956.

The Northwest region is divided into four enforcement areas, with headquarters located in Panama City. Personnel serving the region include a regional manager, information officer, pilot, fisheries biologist, radio engineer, secretary, four area supervisors and thirty wildlife officers.

A summary of the activities of the enforcement section for the past biennial shows that wildlife officers spent 159,324 hours on land patrol, 34,812 hours on water patrol, made 1,380 arrests for game and fish law violations, and traveled 1,298,272 miles in performance of their duties.

Meetings are held quarterly for all personnel in the Northwest region, and monthly for the four law enforcement areas. These meetings are designed to keep the personnel of the Northwest region abreast of the changes in the programs and policies of the Game and Fresh Water Fish Commission, and to serve as a morale factor, and education medium. Through the use of such meetings, the Northwest region is constantly striving to produce a better informed and, thereby, a better qualified wildlife officer. The wildlife officers of the Northwest region are today bet-

ter qualified, better equipped and more capable of performing the duties of a Commission wildlife officer than ever before.

The Northwest Florida regional fisheries biologist investigated numerous fishery problems in the past two years. Technical assistance was provided in all phases of small lake and pond management. The greatest possible utilization of hatchery fingerlings has been obtained by inspections to determine stocking needs. A total of 2,716,550 bream and 212,845 bass were released.

The Game and Fresh Water Fish Commission operates one fish hatchery in the Northwest region, the Blackwater hatchery located at Holt, which produces an average of one and a half million bluegill fingerlings and seventy thousand bass fingerlings per year. The Dead Lakes hatchery located at Wewahitchka has been closed due to a shortage of water. The Northwest region fisheries technician assisted hatchery personnel with hatchery management so that maximum utilization of existing facilities could be obtained.

The regional technician participated in the following projects and surveys: Lake George, Lake Jackson, Lake Bradford, Merritts Mill Pond, North Bay and Dead Lakes,

and, attended numerous meetings throughout the region concerning a variety of problems. Talks and lectures were presented to schools, clubs, and civic organizations on proper fish management technique and procedure.

The region pilot conducts routine air patrol as law enforcement aid. Close cooperation between air observation and law enforcement resulted in numerous arrests that otherwise would have been impossible. The region pilot also assisted in a number of air searches, and conducted waterfowl inventories in the St. Marks refuge and throughout the entire region.

The region information officer, as routine duty answers all information requests, presents lectures on wildlife, conservation of natural resources, and various subjects, to sportsmen's organizations, civic clubs, schools and other allied groups, and handles public relations activities concerning the Commission and the Northwest region. He also conducts a year-round training program among the wildlife officers of the region, and is responsible for seeing that the Commission's activities, programs and policies are properly presented to the people of the Northwest region.

The communications section of the Northwest region consists of one radio engineer who is responsible for the installation and maintenance of the eight base stations and the sixty-nine mobile units in the region. With the present installation of



Regional area supervisor inspects illegally taken doe and confiscated firearms and lights taken in arrest.

eight base stations, the Commission now has a complete radio coverage over the entire Northwest region. ●

Employees cooperate closely on law enforcement operations.



RECAPITULATION

Wildlife Officers' Activities, Northwest Florida Region (July, 1956 through June, 1958)

Miles Traveled	1,298,272	Complaints and Violations Investigated	1,640
Arrests Made	1,380	Hours Equipment Maintenance	2,862
Hours, Land Patrol	159,324	Hours Other Than Law Enforcement	3,766
Hours, Water Patrol	34,812	Hours Office Work	2,362
Hours in Court	1,512		
Hours in Meetings	3,593		



The Everglades Florida Region Reports

THE EVERGLADES REGION encompasses nearly eight million acres of land area, ranging from the populous tourist centers of Miami, West Palm Beach and Fort Lauderdale, to the forbidding primitive areas of the Everglades.

The region includes 10 counties which are Dade, Broward, Collier, Indian River, St. Lucie, Okeechobee, Palm Beach, Monroe, Martin and Hendry. The two largest counties of the Everglades region, both in land areas and in populations, are Dade and Palm Beach.

The Everglades swamp lands have been described as a huge, shallow, creeping river hidden by a blanket of sawgrass. It is sometimes difficult to realize, while riding through the central part of the

Everglades region, that just 50 miles on either side of you are populous tourist resorts bulging with people and their activities. On the other hand, a person traveling down the fabulous coast of the Everglades region would find it equally difficult to visualize the vast remote stretches of cypress strands, flat pine and palm hammocks that dominate the northern and west central portion of the Everglades region. The neverending expanse of sawgrass spreads its reedy vegetation as far as the human eye can see in the southern end of the region.

LOUIS F. GAINNEY
Manager

All these wonders of nature so abundant in the Everglades region present a challenging and fascinating country that attracts more and more sportsman and sight-seers each year.

Certainly this region contains some of the most unusual hunting and fishing in the world.

The distinctive mark of the Everglades region is the need for highly specialized equipment to hunt, fish, explore or work the uncivilized areas. Many sportsmen have evolved mobile equipment capable of conquering the remotest areas. So proud are they of their equipment — swamp buggies, air boats or weasels — that two of the more exciting events in South Florida are the "Swamp Buggy Day" parade and races at Naples on the southwest coast, and the airboat races held each year in West Palm Beach and in the Miami area, where equipment owners compete for highest honors.

The Commission's Everglades Region contains over one-third of the population of the State of Florida. It also contains the most desolate wilderness areas. This means that the Regional office, located in Okeechobee, is constantly faced with specialized problems, peculiar only to this region.

The region has a force of 21 Wildlife officers, three area supervisors, one pilot and a regional manager for the law enforcement staff. Most of these men were trained by many years of association with the vast reaches of the Big Cypress, Lake Okeechobee and the Everglades sawgrass, even before joining the Commission. Such experience is helpful to the job of law enforcement, and to wilderness survival in view of the many dangers encountered in the more isolated areas.

Most of the Region's highly specialized equipment was developed by personal knowledge and experimentation by our officers. The Region's Wildlife officers have designed and built stronger and faster airboats to give the officer the extreme advantage in the 'glades, in spite of their added equipment, such as extra gas and camping equipment necessary for extended law-enforcement patrols. Special tracks

for the Commission half-track mobile equipment had to be developed, so the equipment would be reliable at all times and not fail at a crucial moment.

This Regional transport experimentation is still going on, and

prove present equipment to widen its range and potential in order to keep pace with the increase of sportsmen in the area.

The four types of terrain found in the Everglades region make it necessary to use specialized equipment to patrol the areas. Airboats are a must in the sawgrass areas, while swamp buggies and half-tracks are often used during a low-water period. Swamp buggies, half-tracks and weasels are mandatory in the Big-Cypress, where trees, rocks and mud would soon rip out the bottom of an airboat or bog down a Jeep. The northern flat pine portion of the region requires only Jeeps and automobiles. In the Lake Okeechobee district, consisting of open water and marsh areas, airboats are most suitable, with one inboard and several outboard boats patrolling the open water.

One can surmise from the foregoing that equipment is the keynote to success in the Everglades Region.

Besides their primary duty of law enforcement, wildlife officers in this region are continually called upon for many tasks ranging from collecting biological data to rescue work. Throughout the past two years, many messages of sickness and death were taken to hunters in the field, and several rescues were made of fishermen in overturned boats and hunters lost in swamps in the Everglades. Hunters accidentally shot or stricken with sickness were given first aid and swift transportation to hospitals. Creel census

the results have been appreciable. There is still the ever-present problem of more and more hunters and better equipment invading this region each year. The Everglades personnel will have to continue to im-

1956-1958 WILDLIFE OFFICERS ACTIVITIES

Everglades Region

Miles Traveled	851,970
Arrests Made	1,067
Land Patrol	114,024
Hours in Meetings	1,191
Hours in Court	1,654
Miscellaneous	5,979
Complaints and Alleged Violations Investigated..	1,850
Hours Equipment Main- tenance	4,934
Hours Spent Office Work..	1,971
Water Patrol	14,009



Regional manager checks unloading of wild hogs at Corbett Wildlife Management Area, where the animals are listed as legal game.

and bag checks were made by Wildlife officers to aid in obtaining a more complete picture for the game and fish management departments projects.

The demand for fisheries efforts on both public and privately owned waters is still increasing throughout the Everglades region, owing to the rapid growth and development of the areas involved. A total of 133 privately-owned ponds throughout the Everglades region were inspected and management advice given to the pond owners. The management problems encountered most within the region are non-fertile waters and unbalanced fish populations.

The fisheries biologist assisted in fish kill reports. The biologist also assisted in numerous fish projects, outside of his normal duty station, which consisted of surveys, both ground and air, of lakes and streams as well as selective poisoning programs on Lakes Apopka and Trafford.

The diversified activities of the fishery biologist also included, working with oil-probe surveying crews; small watershed investigations; pollution problems; soil bank programs; Lake George investigations, and attendance at two schools for Wildlife officers, held in Okeechobee. Alligator weed surveys were also carried out by the biologist.



The Central Florida Region Reports

D. C. LAND
Manager

THE CENTRAL Florida Region, formerly known as the Fifth District, is now composed of Brevard, Citrus, Flagler, Lake, Marion, Orange, Osceola, Putnam, St. Johns, Seminole, Sumter and Volusia counties. The smallest of these counties is Seminole, with 347 square miles, while the largest is Marion County, with 1,624 square miles. The entire area in the Central Florida Region covers 11,879 square miles, and takes in some of the finest hunting and fresh water fishing areas in the State, including the Ocala National Forest and the St. Johns River with its tributaries.

In July of 1956, Levy County which had been a part of the Central Florida Region was turned over to the supervision of the Northeast Florida Region and in turn St. Johns County was turned over to the Central Florida Region. The officers who had worked in this area were also assigned to the regions which took over the county. This gave the Central Florida Region three areas with three area supervisors.

In addition to this, another area was created which was called the St. Johns River Area. This area was created specifically for the purpose of controlling all types of illegal fishing on the St. Johns River including Lake George and Crescent Lake. One Area Supervisor and five wildlife officers were assigned to this crew. These officers were situated at strategic spots along the River from a point where the north boundary line of St. Johns County enters the river to Sanford. All officers were given the best possible boats and high speed outboard motors. While their job was to control all types of illegal fishing, the main effort was to be put out to control or stop "monkey fishing."

At the time of this writing, there

are 28 Wildlife Officers and 3 Area Supervisors handling law enforcement work in the Region. The rest of the staff is composed of the regional manager, information and education officer, fishery biologist and secretary--radio operator.

Other activities in the region include the work of game management personnel covering the various game management areas in the territory, the Lake Fishery Experiment Station at Leesburg, the office of the Supervisor of Youth Conservation Education in Ocala, the Youth Conservation Camp at Lake Eaton in the Ocala National Forest, the Communications Division at New Smyrna Beach, and the Aviation Division located at the municipal airport in Ocala.

There are five base radio stations in the Central Florida Region; located in Ocala, Leesburg, San Mateo (Putnam County), Tomoka (Volusia County) and Magnolia (Osceola County). The first two stations are operated by Commission personnel. The other three stations are operated by Florida Forest Service personnel under a cooperative agreement. In addition to this, all officers and technicians are equipped with radio mobile units. The St. Johns River Crew also have radio boxes and antennas in their boats so that the radio chassis may be removed from their cars and put into the boats in order that they may keep in touch with each other when working on the water.

Wherever possible, all officers and personnel have residence telephones, creating a minimum of delay in handling emergency matters and administrative problems.

During the biennium of 1956-58, Wildlife Officers in the Region traveled only 920,169 miles as compared with the 1,100,511 miles in the pre-

vious biennium. On the other hand, they made 1,198 arrests as compared with 843 during the 1954-56 period. The officers spent 143,179 hours in land patrol and 43,492 hours on water patrol. In addition to this, they spent 16,164 hours on miscellaneous duties.

Advancements are made in the type of equipment used by officers as fast as the Commission can afford to buy the equipment. Ninety-five percent of the officers have vehicles not older than 1956 models, 23 of the 29 officers have boats, motors and trailers, three other officers have either a boat or a motor and there are three airboats belonging to the Game Commission in constant use in the Central Florida Region.

Since the St. Johns River Crew has actively engaged in their operation of constantly patrolling the St. Johns River, Lake George and other tributaries, illegal types of fishing operations in this area have been effectively controlled. In September of 1956, an all-out raid was conducted on the "monkey fishermen," in that area. Personnel taking part included Commissioner Don Southwell, six officers, two Federal Wildlife agents, two aircraft with pilots, the regional information and education officer and one Area Supervisor. This action resulted in the arrest of six "fishermen," and the confiscation of over \$4,000 worth of boats, motors and other equipment. The defendants in the case all plead guilty and were fined \$100 each. The defendants' boats, motors, and other equipment were returned to them at a later date as the result of a court action. Since that time, "monkey fishing," activities have been curtailed by about 75%.

During the latter part of 1956 and early 1957, there was much pressure put to bear by interested citizens in Lake and Orange Counties for the Commission to do some reconstruction work on Lake Apopka. Lake Apopka is the third largest lake in Florida, and because of a prolonged drought and consequent low water level, fishing conditions were very bad, partially due also to a large surplus of gizzard shad in the lake. After many conferences, it was decided that a three-year poisoning program would be put into effect,



Illegal operation of electrical fishing devices is a continuing problem in certain areas of Florida.

the cost to be borne equally by the counties involved, the Game Commission, and the State. On November 4, 1957, the first poisoning program took place. It was a complete success and fishing conditions improved almost immediately. Currently, plans are underway to poison it for the second time in August of 1958, then a third time in 1959 or 1960.

The ardent hunters in the Central Florida Region have less than 100 miles to travel to reach any one of the seven game management areas in the region. These game management areas include over one-half million acres. The smallest in area is Holopaw in Osceola County with 23,000 acres while the largest is the Ocala National Forest with 203,580 acres open to public hunting. The others are Tomoka (Volusia Coun-

Below are the hunter-success kill figures for the two hunting seasons included in the biennium at the Central Florida Region Management Areas:

1956-57 — Hunter Success Comparison.

Tomoka	41 deer	12 turkey	1 bear
Farmton	79 deer	59 turkey	
Sumter-Citrus	2 deer	92 turkey	
Richloam	20 deer	31 turkey	
Croom	29 deer	17 turkey	
Holopaw	5 deer	6 turkey	
Ocala	598 deer		2 bear
1957-58			
Tomoka	60 deer	35 turkey	
Farmton	100 deer	62 turkey	
Sumter-Citrus	1 deer	66 turkey	
Ocala	723 deer		7 bear



Regional fisheries technicians do important extension work and handle fisheries problems in Region.

ty), Farmton (Volusia County), Sumter-Citrus (Sumter and Citrus Counties), Richloam (Sumter, Hernando and Pasco Counties) and Croom (Hernando and Sumter Counties). Every species of native game animal, migratory and non-migratory game birds and waterfowl are available to the hunter in this region.

Fishery biologists and game management technicians are available to the public for advice and assistance in the development of better hunting and fishing areas. The regional fishery biologist, based at Leesburg, annually checks hundreds of small lakes and ponds, and often assists the information and education officers by giving lectures and talks of a specialized nature. The fishery biologist's aid to the people of the region may be in the form of weed control, rough fish removal, or game-fish re-stocking where it is found necessary. During the past two years 288 ponds and lakes were investigated and checked for one of the

above-mentioned reasons. Of this number, 41 ponds were completely poisoned to eliminate rough fish populations and later were restocked. Hatchery fish stocked during this period amounted to 280,570 bream and 564,246 bass. Total number of bodies of water stocked was 195.

In addition to his regional work, the biologist consistently helps the fishery division with larger operations in other areas of the state where large numbers of personnel are needed.

The information and education officer has one of the most versatile positions in the region. He is responsible to the Chief of Information and Education and to the regional manager. It is his duty to disseminate as much information as possible to the people concerning the activities of the Game and Fresh Water Fish Commission. He gives talks and lectures; shows movies and slides to various social, civic and educational groups. He makes appearances on television and radio; annually mails out thousands of pieces of literature; prepares press releases on a local level, and, wherever possible, takes pictures of any interesting event which may occur in the region.

It is the hope of the personnel of the Central Florida region that they have been successful in maintaining their part of the goal of the Game Commission, which is good conservation and better hunting and fishing throughout the State. ●



The South Florida Region Reports

D. E. TIMMONS, JR.
Manager

THE SOUTH FLORIDA Region extends from the coastal marshes, hardwood hammocks and blackjack ridges of the central west coast down through extensive citrus grove and lake country and across vast reaches of pine and palmetto flatwoods to the cabbage palm hammocks and cypress strands bordering the glades on the south. The thirteen counties in this region are Hernando, Pasco, Pinellas, Hillsborough, Polk, Manatee, Sarasota, Hardee, DeSoto, Highlands, Glades, Charlotte, and Lee.

This area of slightly more than seven million acres comprises one-fifth of the total area of the state.

There is a wealth of natural resources to be found here—sun, air, land, water, forests, and wildlife. It is truly prime habitat for people and wildlife.

The same phenomenal population growth that Florida is experiencing statewide is to be found generally throughout this region. Large residential subdivisions are occupying lands that provided food and cover for many species of wildlife only a few short years ago. Large farms, groves, and pasture lands cover many thousands of acres which were only recently the backwoods where people hunted, fished, camped, and

enjoyed the many splendors of a Florida outdoors wilderness.

Wildlife and people have become close neighbors. This is a paramount wildlife management problem and it is the basis of a majority of conservation work in the region. The functions of the Commission have been administered through the regional office to meet the present day needs of regulation, enforcement, management, education, and research for the betterment of our wildlife resources.

The complement of Commission personnel in this region includes the Regional Manager, Information and Education Officer, Fisheries Biologist, Wildlife Officer-Pilot, Radio Engineer, Secretary, three Area Supervisors, twenty-five Wildlife Officers, eight Game Management personnel, and two Fish Management personnel. Lakeland, the site of the regional office, is also headquarters for the Hyacinth Control Section of the Fisheries Division.

Law enforcement is a primary function of the regional office system of administration. Enforcement activities in this region during the past biennium included 156,304½ hours land patrol and 7,215¼ hours water patrol. A total of 1,224 arrests were made, and a total mileage of 1,145,965 miles traveled was report-

Wildlife Officers seize \$2,500 worth of illegal fishing equipment in one operation near Lake Wales. Ten officers worked for two weeks on the case.



ed. Activity reports also showed 1,345¼ hours spent in court; 2,553 hours spent in meetings; 1,579 complaints investigated; 2,135 hours in equipment maintenance; 1,764 hours record keeping; and 7,339 hours in miscellaneous duties.

The many and varied activities of each wildlife officer included in miscellaneous duties comprised many hours of work with information, fish management, and game management specialists. Fish restoration, fish population sampling and census, game census, game habitat improvement, fair and exhibit construction and operation, and youth conservation instruction were included among major activities in which law enforcement personnel participated. Extensive public service work was rendered through civil defense coordination work and ground observer corps cooperation. Wildlife officers also participated in emergency and rescue work connected with several drownings and lost person cases.

Publicity and public relations programs were continuously emphasized during all phases of our operation during this biennium. This work was coordinated by the regional information and education officer. Specific management, enforcement, and research programs were publicized through the use of communication media. Newspapers, magazines, radio, television, and public speeches were used. Instructional and educational talks were made, and films were shown to all age groups. Conservation themes used included: "Florida's Wildlife Wealth," "Conservation and You," "Your Wildlife Heritage," "Wildlife Belongs to You" and "Resource, Wealth or Waste."

The South Florida Council of sportsmens clubs was organized during the early part of 1958. The number and membership of sportsmens

clubs and similar organizations has increased rapidly in South Florida. These groups have extended their projects and activities to include all phases of natural resource conservation work. Commission personnel in this region representing each division have worked with these organized groups extensively. This cooperation has done much to further a mutual understanding between the public and professional interests in wildlife conservation.

The theme of the Game and Fresh Water Fish Commission exhibit at the State Fair and the eight other major annual fairs held in this region was "Know Florida's Wildlife." Live specimens of Florida game animals, birds, and fresh-water fish were displayed. Personnel were present at each exhibit to explain details about the species on display, and relate interesting facts about our wildlife and its conservation.

Fish management projects in the region were coordinated by the regional fisheries biologist. The number of fish ponds and other managed bodies of water in this region had reached a new high of 474 in number during this biennium. Though many of the fingerlings used for stocking were obtained from the Federal Hatchery, many of the bass fingerlings were produced at the Winter Haven Hatchery.

Lake and stream surveys, pollution studies, and roughfish control work were other fish management projects which have been expanded in this region. Several old phosphate pools offering good comparative study characteristics were obtained for fishery experimentation work. These have contributed greatly in furnishing data for the use of improved chemicals and techniques in fish renovation projects. Surveys were made on several major bodies of water to determine practical fish



Regional fisheries technicians are finding rare South American fish in Six Mile Creek near Tampa.

restoration practices.

The Public Hunt Areas in this region continued to increase in popularity. The increase in hunting pressure and kill figures indicate the hunter value of the Avon Park, Richloam, Croom and Lee Wildlife Management Areas. The Cecil Webb Wildlife Management Area in Charlotte County has become widely known as a top quail hunt area. A part of this area has been set aside as a bird dog field trials area. The Fisheating Creek Wildlife Management Area is the most famed area in south Florida for hunting our largest game bird, the wild turkey.

Preliminary surveys were made on other tracts of land suitable for development as public hunt areas. This program is very popular with the average sportsman. Large numbers have shown appreciation for the work the Commission is doing to not only preserve and restore harvestable game populations, but in addition, provide a suitable place to hunt.

It is through these practices the South Florida Region is serving the outdoor minded public—the ever increasing numbers of Florida's hunters and fishermen. ●

RECAPITULATION OF WILDLIFE OFFICERS ACTIVITIES

	1956-57	1957-58	Total
Miles Traveled	559,992	585,793	1,145,965
Arrests Made	551	673	1,224
Hours Land Patrol	77,369	78,935½	156,304½
Hours Water Patrol	3,641	3,574¼	7,215¼
Hours in Court	701	644¼	1,345¼
Hours in Meetings	1,310	1,243	2,553
Complaints Investigated	730	849	1,579
Hours Equipment Maintenance	1,090	1,045	2,135
Hours Miscellaneous Duties	2,868	4,471	7,339
Hours Office Work	926	838	1,764



YOUTH CONSERVATION EDUCATION

DENVER STE. CLAIRE
-CHIEF-

Compass reading and orientation work is valuable for anyone traveling in wilderness areas—How Not to Get Lost In The Woods.

TWO MOST IMPORTANT assignments for our society today are the conservation of our human and natural resources. It is not only an assignment; it is a challenge. So much depends on our youth. So much more depends upon us to see that the proper concepts of conservation are presented to them.

Both of these assignments have been fully considered by the Game and Fresh Water Fish Commission in its Youth Conservation Education program.

The education and information of Florida's youth in nature, wildlife, and resources has become a most integrated and vital part of the Game Commission's educational policy. The Youth Education Section has been charged with disseminating this information to youth interested in the outdoors.

The responsibility of developing a multi-phased Youth Education Program is assigned to the Chief of Youth Conservation Education.

This program has a definite purpose and is found incorporated in the following five-fold concepts:

1. To train our youth toward a better understanding of conservation of our natural resources.
2. To instill in the minds of our youth a greater appreciation of the out of doors and to recognize the great need of protecting and improving the State's outdoors areas.

3. To teach them the wise use and planned maintenance of our soils and waters.

4. To guide them in the sound use and intelligent management of our fish and wildlife.

5. To help them foster the proper utilization and systematic perpetuation of our forests.

Using these five-fold concepts as the basis for the program, it has been necessary to employ various methods to capture and hold the interest and cooperation of our youth. To stimulate their thinking to a better understanding of conservation of our natural resources, the program has been designed to include as many challenges as possible.

The four divisions of the program are: Youth Conservation Clubs, Youth Conservation Club League, Youth Conservation Camp, and State Wide Youth Educational Program.

I. THE YOUTH CONSERVATION CLUB PROGRAM, sponsored by the Game and Fresh Water Fish Commission, has developed to a stage where it now includes 25 organized clubs in the State League. These clubs are found in some of the principal cities of the State of Florida. Other than the 25 affiliated clubs, there are four known organized non-affiliated youth conservation clubs. Whenever a club is organized, it is not mandatory for the

club to join the League. The club may remain independent, but is still guaranteed the many services which the Commission extends in its educational program.

The purpose of creating these clubs is to bring together in a common bond of interest all young people who are interested in fishing, hunting, conservation, and the outdoors.

These clubs are organized by the Florida Game and Fresh Water Fish Commission. Any interested adult group can sponsor one of the clubs. The development of these clubs in the State has been gradual and is constantly making progress each year.

A booklet, "How To Organize a Youth Conservation Club," has been prepared by the Information and Education Division. A second booklet, "How To Operate A Youth Conservation Club," has recently been printed. The third and final booklet in this series, "The Youth Conservation League and Camp," is in the process of being written.

II. THE YOUTH CONSERVATION CLUB LEAGUE was created for the purpose of bringing together the clubs and their members, and to consolidate their efforts toward a greater understanding of conservation. Only those youth clubs that have organized and have a charter and by-laws are eligible for League membership.

The clubs that join the League are required to meet certain standards; when these standards are met, they are invited to join and participate in all League activities.

Each year, at an annual meeting held at the home city of the League president, delegates from the various affiliated clubs convene for the purpose of electing officers, and for the purpose of discussing Club and League business. At the annual meeting, the Board of Directors, elected by the delegates, prepares an agenda for the ensuing year, and makes recommendations for the annual summer camp.

The Board governs and creates policies for the League and affiliates. For the first time, during the summer of 1958, the League held its conference away from camp. The Seventh Annual Conference was held at Stuart, Florida. The city was selected because it was the home of the outgoing president. This established the precedent of having the Annual Conference held away from the camp.

III. THE YOUTH CONSERVATION CAMP has been established for the purpose of giving our youth an opportunity to enjoy the outdoors, and to learn more about conservation. At Camp, they join forces for a week of combined recreation and outdoor education. During the encampment, the youthful conservationists learn new concepts of conservation. At Camp, they are given the opportunity to recognize that conservation of our natural resources means the wise use of these resources with the greatest good for the largest number of people for the longest time. They learn that the

wealth of the Nation depends on its available resources and upon the resourcefulness of its people. At Camp, they are made aware that conservation applies to all people, rural and urban, and to be most effective must be practiced universally.

Qualifying for target shooting has been one of the camp's important activities. The program is approved by the National Rifle Association. The older boys shoot .22 calibre rifles, while the smaller boys use air rifles.

In 1958 the Hunter Safety Program was offered as a supplement to the Rifle Instruction Activity.

The Youth Conservation Camp is located in the Ocala National Forest on Lake Eaton. The Camp covers an area of 57 acres. In 1955, a mess hall, which will accommodate 400 young campers, was constructed. The building also contains the Conservation Room. Here are installed blackboards and exhibits of Wildlife, Forestry, etc. Educational films are shown here as well as study skins of wildlife found in Florida.

Ten concrete-block cabins were also constructed, to accommodate a total of 100 campers. Tents are also available. A power line has been installed to supply electricity. A winding road trails from State Road 314 to the center of Camp. The road was constructed by the State Road Department in 1954. A sandy beach has been pumped up.

During the summer of 1957 the Youth Conservation Camp operated for 12 weeks. In 1958 it operated for eight weeks, including one two-week camping period which was offered on a trial basis. During these two camping seasons, over 2,000

young campers attended the camp and participated in the program. This is over twice the number that attended during the summers of 1955 and 1956.

The operation of the camp is the direct responsibility of the Chief of Youth Conservation Education, who employs a staff each summer which consists of a director, assistant director, nurse, waterfront director, senior counselors (as needed), junior or cabin counselors (as needed), chief cook, assistant cook, and dishwashers (as needed). A camp custodian resides at the camp year around. The entire staff is responsible to the Supervisor.

Plans for future construction call for an additional 10 dormitory-style buildings, and a recreation building. The recreation building will include a conservation library, sick bay, administration offices, work shops, stage, small auditorium, and lecture rooms. Plans also include additional docks for boating, fishing and swimming, and a larger beach.

The encampment for 1958 was the fifth held at Lake Eaton. Two previous encampments were held in the southern part of Florida, making a total of eight annual encampments.

Programming for each summer camp is considered most important for the young campers. Considerable attention is given to outlining a program which will be interesting. Through the experiences of past years, it has been determined that a program offering the greatest interest is one which includes active participation. The lectures or talks have been minimized; and wherever instruction is given to the young people, discussion groups are organ-

Nothing is more important than training our Youth Conservation Club members in safe handling of firearms and hunter safety education.

Wild animals hold your interest—especially when the lecturer knows what he is talking about, and also knows how to handle live wild animals safely.



ized. These discussion groups allow for a greater exchange of ideas and more participation of individuals.

Definite progress has been made in the past few years in creating schedules which are appealing to both boys and girls. The schedules include ample opportunity for free periods in which to do the things that they enjoy most.

Each encampment is evaluated. The following year's program is developed by studying recommendations for the preceding year. Innovations are constantly employed to improve the program. The Director and counselors are alert to evaluate any part of the scheduled program, and to make the necessary changes which will bring about the most successful results.

Age groups are now assigned specific weeks. Ages 8-12 and 13-16 have their separate individual programs and encampments. This practice was initiated during the summer of 1958 and was found most successful. The counselor-to-camper relationship was greatly increased.

Counseling is the most important phase of the summer camping program. It is important to have qualified counselors who know how to work with, and understand, their young charges. Each encampment calls for better and more qualified and enthusiastic counselors. These men and women must have a sincere interest and desire to help the youngsters. Prior to opening of camps, a workshop for training counselors is held.

IV. THE STATE WIDE YOUTH EDUCATION PROGRAM includes

a closer working relationship with schools and other organizations. These organizations are Boy Scouts, Girl Scouts, Future Farmers, Future Foresters, 4-H Clubs, Junior Garden Clubs, and others.

The purpose for presenting this program to these organizations is to stress special emphasis on the conservation of our natural resources.

During the two years covered by this report, a Scouting for Conservation Program was created by the Game and Fresh Water Fish Commission in cooperation with the Boy Scouts of America. After a Boy Scout has earned required merit badges and completed the individual conservation projects as required by the Scouting for Conservation Program, he may obtain his awards from the Office of the Chief of Youth Conservation Education by completing the necessary application. For the award of "Ranger" he receives a certificate signed by the Chairman and Director of the Commission in addition to an identification card and a badge for his uniform. For the Award of "Chief Ranger" he receives a certificate signed by the Chairman and Director of the Commission in addition to an identification card and a cloth badge for his uniform. For the final award of "Florida Wildlife Conservationist" he receives a certificate signed by the Governor of Florida and the Chairman of the Commission. He also receives, in addition to an identification card and a cloth badge for his uniform, a free trip to the State Capitol. A gold pin is also given to the Scout. This program is taking

hold in the State of Florida and, at this writing, 14 Boy Scouts have attained the rank of "Ranger" in this Scouting for Conservation Program.

For the past two summers, just prior to our own camping sessions, three Girl Scout Councils in Florida used our Youth Camp and its facilities to conduct their Camp Wildlife. This is the first known camp of this type for Girl Scouts in the Nation.

During the later part of 1958, a 4-H Conservation Awards program was initiated in cooperation with the Game and Fresh Water Fish Commission. The Game Commission has created additional awards for each specific project relative to conservation. These conservation subjects offered by the 4-H program are: Forestry, Wildlife, and Soil and Water. The certificates are for Primary, Advanced, and State Levels. Top award for the state is the Florida Wildlife Conservation. All necessary conferences have been completed and the Game and Fresh Water Fish Commission's program has been officially approved by the 4-H authorities.

A similar program is in the planning process for the Future Farmers of America. One will also be created for Girl Scouts.

The Youth Conservation Section of the Information and Education Division has broadened its scope to include all youth agencies. Assistance is given either directly to the youth organizations, or through the school system. Plans are also being made to introduce a program for the elementary as well as the secondary schools.



Preparations are being made to work in conjunction with the State Board of Education in the Outdoor Education Project recommended by the N.E.A. for school curriculum. This Outdoor Education Project for schools is sponsored by the National Education Association through its Association of Physical Education, Health, and Recreation.

Future workshops are to be set up for teachers as well as laymen. In many counties, the schools are recognizing the value of the program and are working closer with resource agencies.

The Information and Education Division, through its officers, is constantly promoting better relationships with the schools and teachers. Some officers have been assigned specific projects to promote and create teacher's conservation clinics.

New ideas are constantly considered for the promotion of any program which will interpret proper

conservation concepts. Future plans call for creation of workshops and clinics for the non-professional, and the sportsmen.

Efforts are being exerted to present a program to the State Board of Education for establishing training periods in conservation for teachers.

The Youth Education section is also interested in promoting and working with conservation committees of civic and fraternal clubs.

The Chief wrote a total of 24 articles for the Junior Conservationist Column of Florida Wildlife Magazine. The Youth Conservation Education Office at Ocala distributed approximately 10,000 pieces of literature to interested persons. In addition, over 1,000 letters were received and over 2,000 letters were mailed from the Office of the Chief of Youth Conservation Education.

Special honors were presented to the Game and Fresh Water Fish

Commission during the 1957 Annual Meeting of the American Association for Conservation in Biloxi, Mississippi. The Game Commission received the National Award for Excellence in Special Conservation Project, The Youth Conservation Education Program for 1956.

Also the Nash Conservation Awards Program, through the American Motors Corp. was presented Denver Ste. Claire as an award for Exceptional Services to the Cause of Conservation.

On an overall basis, the Youth Education Program has made considerable progress during the past biennium, especially in the consolidation of programs and activities, formulation of new policies and procedures, and the creation of new printed material and a system of awards.

Detailed reports of all operations are available to interested persons.



The COMMISSIONERS

Julian R. Alford, Tallahassee, was appointed April 4, 1958, to serve on the Game and Fresh Water Fish Commission, and was subsequently elected to serve as Commission Chairman.

A well-known attorney at law, Mr. Alford has long been an active worker in church and civic affairs. He has also been active in Scouting affairs, and lists hunting, fishing and athletics as his favorite recreations.

In discussing his acceptance of his Commission appointment, he states, "I was motivated by a desire for public service together with the hope and anticipation that I could contribute something to conservation on a state-wide basis."

As Chairman, Mr. Alford has set five goals to be achieved by himself, and the Commission's staff, as follows:

1. That we attempt to give a dollar's worth of service for every revenue dollar spent.
2. That we consider our positions and our offices as ones of public trust, with each of us at all times responsible to the people of the State of Florida.
3. That we make every effort to develop to the highest possible extent a fine *esprit de corps* among all personnel of the Commission.
4. That we use all property of the Commission with the utmost care and provide the best possible maintenance in order that we may derive from it the maximum use and benefit for conservation work.
5. That we, at all times, strive to determine and to put into practice the best conservation practices which will result in larger dividends in fishing and hunting and other outdoor recreations for all the people of Florida.

Mr. Alford was born in Tallahassee April 22, 1912.

In church affairs, he is a Ruling Elder in the Faith Presbyterian Church of Tallahassee, and has also been a member of various boards and committees from the General Assembly down to the local church level. He is a Past Moderator of the Synod of Florida.

In Boy Scouting work, Mr. Alford is a holder of the Silver Beaver Award. He is a past president, and presently an executive board member of the Suwannee River Area Council of the Boy Scouts of America in Florida.

In addition to much local civic work, Mr. Alford is a member of the Leon County Forestry Fire Prevention Committee. He also serves on the Governor's Advisory Committee on Water Access and Traffic Safety.

Mr. Alford is wed to the former Miss Dorothy Price. They have four

children: Dorothy Ann, 18; Julian R., Jr., 16; Elizabeth Clark, 12; and Marvin Price, 9.

FIRST DISTRICT

T. Paine Kelly, Jr., of Tampa, was appointed April 3, 1958, as Game and Fresh Water Fish Commissioner from the First Conservation District of Florida.

As a Commissioner, Mr. Kelly believes that the single most important objective of the Commission is to expand the public hunting grounds and public fishing facilities throughout the state. He holds that such expansion work must be done just as rapidly as the local conditions and populations of fish and wildlife may permit. He feels, however, that such work must always be performed in accordance with the best possible conservation practices and techniques now available.

Long active in civic and business affairs, Mr. Kelly is a life-time outdoorsman, and an ardent golfer, fisherman and hunter.

As a practicing lawyer, Mr. Kelly is able to contribute much practical legal knowledge and business experience to the conduct of the Commission's affairs.

Born in Tampa August 29, 1912, Mr. Kelly now serves as president of the Tampa Chapter of the American National Red Cross.

He also serves as a director of the Boys' Club of Tampa, and is the National Associate of Boys' Club of America for South Florida.



Julian R. Alford
Chairman
Third District



T. Paine Kelly, Jr.
First District

He is a past president of the Tampa Chamber of Commerce, and also a past president of the President's Round Table of Tampa and the Tampa Exchange Club.

He married the former Miss Jean Baughman. The couple have three children: Carla Jean, 16; T. Paine, III, 15; and Peggy Jo, 4.

SECOND DISTRICT

Riley Gordon Granger was born October 24, 1898, in Loris, Horry County, South Carolina, son of Edmund Riley and Frances (Wilkins) Granger. His father was engaged in the turpentine industry and in farming operations.

Perhaps Mr. Granger's outstanding achievement has been organization of what is now the State Forest Ranger School of the University of Florida. It was in January, 1947, that he assisted in organizing the Columbia Forestry School at Lake City. That school was a non-profit corporation, and Mr. Granger was made president of the corporation. So successful was the new school that those responsible for its existence and continuance arranged for its transfer to the University of Florida as a part of the university system on July 1, 1949. Since that time it has operated as the State Forest Ranger School of the University of Florida.

Mr. Granger is also president of Granger Lumber Company, Inc., of Lake City; president of the G.B.S.

Corporation of Lake City, a development enterprise; director of the Southern Pine Association of New Orleans, Louisiana; director of the Associated Industries of Florida, and also a director of the local Chamber of Commerce of Lake City and Columbia County. Mr. Granger was also formerly a director of the Perry Banking Company of Perry, Florida, from 1935 to 1940. From 1926 to 1934 he was a member of the Branford Town Council, and from 1932 to 1935 he was chairman of the board of trustees of Branford High School.

He is a member of the American Legion and the Veterans of Foreign Wars. He was cited in General Order No. 64 for "distinguished and exceptional gallantry in action" at Somme-Py, France, on October 8, 1918, and was awarded the Silver Star Medal. He is also entitled to wear the decorations of the French fourragere in the colors of the French Croix de Guerre.

Today Mr. Granger is active in fraternal circles as a member of the Free and Accepted Masons. He has held the different offices of his lodge, and has been district deputy grand master under two grand masters of the Grand Lodge of Florida. He is a member, too, of the Order of the Eastern Star, in which he has served as associate patron and worthy patron. He is also active in the Ancient Arabic Order of Nobles of the Mystic Shrine. In the Benevolent and Protective Order of Elks he is

a leading worker. He belongs to the Lake City Shrine Club and other groups, and attends the Methodist Church, of which most of his family are members.

Mr. Granger married, August 14, 1922, in Perry, Florida, Merle Vansickel, daughter of Harry Ellsworth and Eva (Passmore) Vansickel. Mr. and Mrs. Granger are the parents of five children: Doris Lillian, 33; Dura Glenn, 32; Marjorie Ann, 27; Patsy Ruth, 25, and Riley Gordon, Jr., 21.

FOURTH DISTRICT

Dr. James Watson Cosper, Jr., who is Commissioner for the Fourth Conservation District, was born May 17, 1924, in Birmingham, Alabama. He presently resides in Homestead, where he practices dentistry.

Dr. Cosper attended the University of Alabama, where he received the following degrees: Bachelor of Science and Doctor of Medical Dentistry from the School of Dentistry.

He entered the Dental Corps of the United States Navy in May, 1942, where he saw service in the South Pacific. He was honorably discharged in May, 1946.

Dr. Cosper is a member of the Veterans of Foreign Wars, the Lions and the Junior Chamber of Commerce. He serves on the Board of Directors of the Redland District Golf and Country Club. He also has served as Chairman of the Zoning and Planning Board for the City of Homestead, Florida.

Dr. Cosper is Treasurer of the



R. Gordon Granger
Second District



J. W. Cosper, Jr.
Fourth District



F. Don Southwell
Fifth District

Dade County Dental Research Clinic and is a member of the Board of Directors, Miami Dental Society, the Florida Dental Society, the American Dental Society, the American Society Dentistry for Children, the International Association of Anesthesiologists, and a Diplomat of the National Board of Dental Examiners.

Dr. Cospers is especially interested in fishing, hunting and golfing. Professionally, he is interested in Dental Research, especially as related to restorative dentistry.

Dr. Cospers was appointed as a member of the Florida Game and Fresh Water Fish Commission on March 22, 1956.

Dr. Cospers is married to the former Miss Evelyn Fay Sullivan. They have one daughter, Denese Marie, aged 3½ years.

FIFTH DISTRICT

F. Don Southwell, Commissioner for the Fifth Conservation District, first came to Florida in 1917 from Michigan. Until 1931 his time was divided between Texas and Florida; building telephone lines and surveying Florida swamps and building houses in Texas.

In 1939, he left the building business and returned to Florida. He made one trip to California in 1940, to make sure that Florida was the place, and in 1941, settled permanently in Ormond Beach.

Hunting, fishing and conservation have always been Mr. Southwell's hobbies. A life-long interest in perpetuation of natural resources and wildlife, along with a firm conviction that Florida should be maintained as a "Sportsman's Paradise," resulted in the years of his active work in conservation in Florida.

Mr. Southwell accomplished much conservation work while serving the Florida Wildlife Federation as Director for many years. At times, he also served as the Federation's Treasurer, Executive Secretary, and Recording Secretary.

He is an active member of the Florida Outdoor Writers Association, and served as president of the Fifth District Sportsmen's Association in 1954, and as president of Halifax

Hunting and Fishing Club for several years.

He feels that his interest and knowledge of the needs of Florida's sportsmen, and the state as a whole, led to his appointment to the Game and Fresh Water Fish Commission on June 8, 1955.

Mr. Southwell is especially interested in every phase of the Commis-

sion's work, with particular emphasis on the Youth Conservation Camp at Lake Eaton, as well as acquisition of additional managed public hunting areas, extended hyacinth control operations, and the expansion of the law enforcement and education divisions of the Commission.

Mr. Southwell married the former Miss Doris Smith in 1934.

The Administrators

A. D. "Bob" Aldrich began his duties as Director of the Florida Game and Fresh Water Fish Commission on April 11, 1955. Mr. Aldrich has an impressive record of conservation experience dating from 1921.

Mr. Aldrich has long been active in the various fields of wildlife conservation through such national agencies as the American Fisheries Society, the International Association of Game, Fish and Conservation Commissioners, the Wildlife Society, the National Waterfowl Council, the Izaak Walton League of America, the Boy Scouts of America, and other professional organizations.

Mr. Aldrich is now serving as President of the International Association of Game, Fish and Conservation Commissioners.



A. D. ALDRICH
Director

O. Earle Frye has served as Assistant Director of the Florida Game and Fresh Water Fish Commission since 1951. He first joined the Commission as a bobwhite quail research technician on January 14, 1946, and has since rendered service in many capacities and positions.

Mr. Frye is especially noted for organizing and putting into effect a progressive game management program for the Commission, with a subsequent improvement in hunting success for the Florida hunter. He has written numerous technical and non-technical articles about wildlife and game management programs for many different publications.

He was awarded his Doctor of Philosophy by the University of Florida June 7, 1954.



O. EARLE FRYE
Asst. Director

**This Report Prepared By
THE ADMINISTRATIVE STAFF**

ADMINISTRATORS

DIRECTOR A. D. ALDRICH
ASSISTANT DIRECTOR O. EARLE FRYE

DIVISION CHIEFS

FISCAL JOEL MCKINNON
GAME MANAGEMENT E. B. CHAMBERLAIN, JR
FISHERIES E. T. HEINEN
INFORMATION AND EDUCATION ROBERT A. DAHNE

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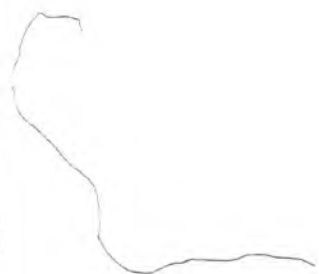
"FLORIDA WILDLIFE" MAGAZINE WILLIAM F. HANSEN
COMMUNICATIONS RHETT McMILLIAN
AVIATION WILLIAM S. DURKEE

REGIONAL MANAGERS

NORTHWEST JAMES W. BICKERSTAFF
NORTHEAST CHARLES CLYMORE
CENTRAL D. C. LAND
SOUTH D. E. TIMMONS, JR.
EVERGLADES LOUIS F. GAINES

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NORTHEAST REGION Lake City
301 North Marion, P. O. Box 908, Phone 1725
CENTRAL REGION Ocala
205 West Adams Street, MARion 9-2802
SOUTH REGION Lakeland
Lodwick Airport, P. O. Box 1392, MUtual 9-0911 or 9-0921
EVERGLADES REGION Okeechobee
County Courthouse, P. O. Box 877, ROdeo 2-2851



ABOUT THE BIENNIAL REPORT

The Game and Fresh Water Fish Commission submits, each two years, a full report covering all operations of the biennial period immediately past. This Biennial Report is submitted to the Governor and each member of the State Legislature of Florida. The Report is, in effect, a legal statement to all of the people of Florida as to the administration of their conservation monies and affairs.

Copies of the Report are also permanently filed in the State Archives of Florida, to eventually become a part of the historical record of our state.

Additional copies are requested by school and public libraries throughout the state for placement in research files used by students and other interested persons.

Additional copies are forwarded — by mutual exchange agreement — to other conservation agencies, mainly throughout North America, but also in some foreign countries. This allows all conservation agencies to keep a current information file on the status, progress and new developments of wildlife conservation work in all parts of the nation, as well as in many parts of the world.

A number of university students, in Florida and other states, request copies of the Report for use as research material in compilation of required theses.

In addition, certain chapters of the Report are later reprinted in leaflet form to answer specific requests from interested Florida citizens, especially those who are prospective employee applicants.

The Commission's Biennial Report is customarily produced in "magazine-size," to allow better presentation and reproduction of the material, and also to reduce production costs. Many of the photographic engravings appearing in this Report are engravings previously used in the Commission-published *Florida Wildlife* magazine during the two-year period covered by the Report. On occasion, sections of the Biennial Report are later reprinted in *Florida Wildlife* magazine.

ROBERT A. DAHNE,
Chief,
Information and Education Division.